

# GENERAL CATALOGUE

## NUMBER 4



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M

Halifax  
Quebec  
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Toronto  
Hamilton  
London



General Catalogue  
No. 4

# Telephone Apparatus Wires and Cables Electrical Supplies

*We are also able to furnish manufacturers' catalogues and descriptive literature on specific lines.*

***Northern Electric Company***  
LIMITED

*Head Offices and Manufacturing Plant:*

121 Shearer Street  
**Montreal**

*Branch Offices and Warehouses:*

**Montreal**, 814 Notre Dame Street, West

**Halifax**, 67-69 Upper Water St.

**Quebec**, 229 St. Joseph St.

**Ottawa**, 75 Sparks St.

**Toronto**, 131 Simcoe St.

**Hamilton**, 57 Home Bank Bldg.

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**Windsor**, 100 Chatham St.

**Winnipeg**, 599 Henry Ave.

**Regina**, 6th Ave. and Osler St.

**Calgary**, 102 Eleventh Ave.

**Edmonton**, 511 Tegler Block

**Vancouver**, 313 Water St.

*Cable Address "NEMCO"*



## FOREWORD

WE take pleasure in presenting our new General Catalogue Number 4, on Electrical Supplies, Telephones and Wires and Cables.

The quality of any device is dependent upon three fundamentals: Design, Material and Workmanship. Only supplies of recognized merit are handled in our various warehouses. Telephones and Wires and Cables are our own manufactured products.

The information covered by this volume is generally complete, any further information relative to minor details necessary in specific cases will be handled by correspondence or special circulars.

Absolute accuracy in a publication of this kind is a commercial impossibility and it should be borne in mind that although every effort has been made to avoid error, prices and data shown herein are subject to change without notice.

### NORTHERN ELECTRIC COMPANY LIMITED

MONTREAL  
HALIFAX  
QUEBEC  
OTTAWA

TORONTO  
LONDON  
HAMILTON  
WINDSOR  
WINNIPEG

REGINA  
CALGARY  
EDMONTON  
VANCOUVER



## PRICES

Prices found in this catalogue are revised to agree with the latest lists at the time of issue. It is to be understood that they are subject to change without notice and are therefore not offered by us as a quotation. It is contemplated that all prices are for shipment from our warehouse unless otherwise specified, except such goods as are shipped regularly direct from factories, in which cases prices are for factory delivery unless otherwise specifically agreed upon.

## ORDERS

It is to be noted that we have placed opposite each article, when possible, a list number. When ordering material by mail, kindly order by the list number and give a description of the article required.

We request our customers to specify the routing over which they prefer shipments to be made. In the absence of specific instructions, we shall use our best judgment in selecting the route, but we are not responsible for extra drayage expenses at destination.

## TERMS

Our terms are 30 days net from date of invoice. Cash discount for payment within ten days from date of invoice may be deducted at the rates set forth in the manufacturers' schedules of cash discounts, or such cash discounts may be deducted for payment with order.

Payments may be made by check, bank draft, postal or express money order, drawn to the order of or endorsed to the order of the Northern Electric Company, Limited.

Payment in currency through the mails is not recommended. Registered mail may be used at the sender's risk. We are not responsible for loss or mis-carriage of the mails.

Receipts are not issued for remittances unless requested. Our endorsement on remittance is acknowledgment of the receipt of the funds.

We solicit new accounts on a credit basis, and in order to give prompt service, request those purchasers who are not rated by the Commercial Agencies to send references or other information of a credit character with the order. These will be immediately acted upon, and the result held in strict confidence for our sole use, and, when reasonably satisfactory, shipment will follow with all possible despatch.

To avoid the delay incidental to communicating with references, etc., it would be mutually convenient, when immediate shipment is desired, to instruct us to ship C.O.D., by express, parcel post if money remitted (insured if so instructed), or by freight subject to sight draft through a local bank against bill of lading.

We shall advise new customers of the terms on future orders promptly after communications from references are received.

## RETURNED GOODS

To save transportation charges, and to facilitate the handling of goods upon receipt, we request that no return of goods shall be made without having obtained shipping instructions from us.

## SHIPMENTS

As experienced packers are employed, and as reasonable care is used in packing, we cannot be held responsible for breakage in packages which are delivered in "good order" to the carrier.

Shipments of glassware are made at purchaser's risk.

Goods ordered to be shipped by parcel post will be sent only at the purchaser's risk of loss or damage.









TORONTO



WINNIPEG



HALIFAX



LONDON  
ONT.



CALGARY



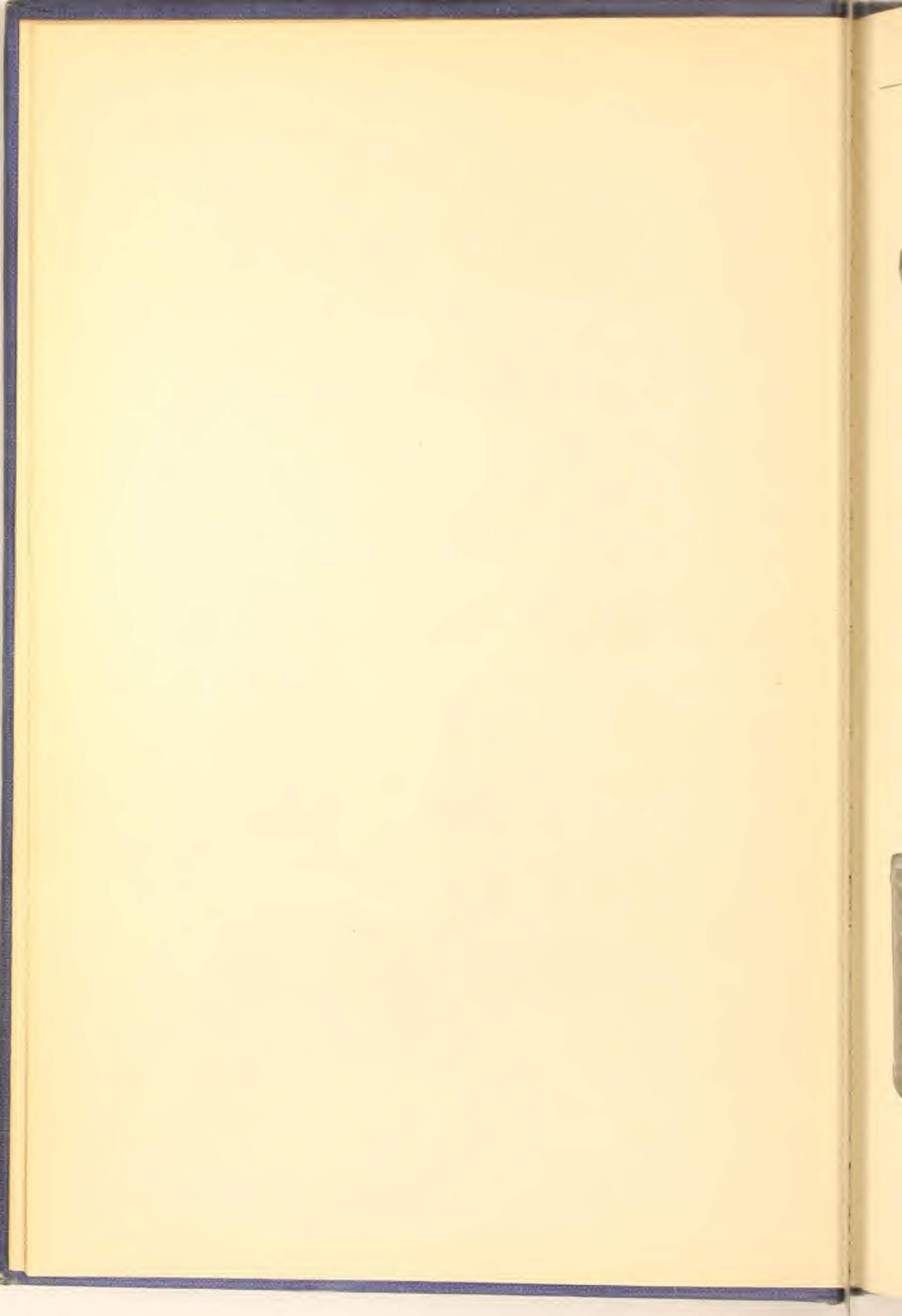
VANCOUVER



REGINA

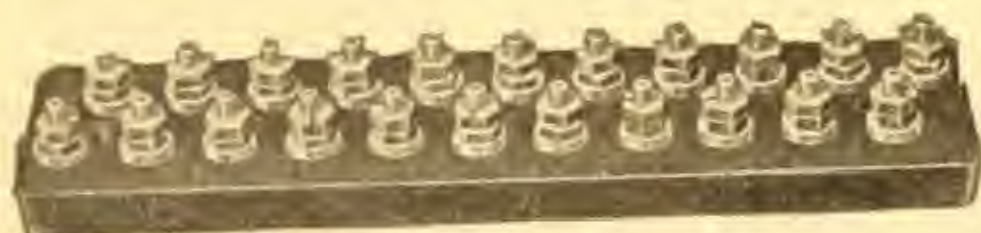
Our Branch Offices in Seven Principal Cities







## INTER-PHONE ACCESSORIES



No. 6B Connecting Block



No. 19B Cable Terminal

### CABLE TERMINALS

#### No. 19 Type

The No. 19 Type Cable Terminal is admirably suited for interior distributing work. Made of hard wood, numbered and shellacked, and equipped with a japanned sheet metal cover.

Code No.	Capacity Pairs	Length Inches	Width Inches	Depth Inches
19A	14	8	5 1/8	2 1/2
19B	26	14	5 1/8	2 1/2

### CONNECTING BLOCKS

#### No. 6 Type

These blocks consist of brass studs embedded in a hard composition base. Studs fitted with two nuts (one a split check nut) and two washers.

Code No.	Capacity Pairs	Length Inches	Width Inches
6A	7	5 5/8	1 7/8
6B	11	8 5/8	1 7/8
6C	16	12 3/8	1 7/8
6D	21	16 1/8	1 7/8
6E	26	19 7/8	1 7/8

#### Nos. 11 and 12 Types

These styles consist of a composition base in which the screw terminals are embedded. Each terminal consists of two screw bushings electrically connected by means of a metal strip, and provided with screws and washers.

No. 11B is the same as No. 11A except equipped with a cover.

No. 12B is the same as No. 12A except equipped with a cover.

Code No.	No. of Terminals	Size Inches
11A	2	1 1/8 x 1 3/8
12A	3	1 1/8 x 1 3/8

### EXTENSION BELLS

No. 11B bell is wound to 10 ohms and may be used as an extension bell for any Inter-phone System. It should also be used for any separate signaling circuit, such as a door-bell operating from the Inter-phone batteries.

### BATTERY BOXES

No. 1A—Black japanned sheet metal box lined with an insulating material. Holds three Northern Six dry cells. Size of box, 8 3/4 inches long by 5 3/8 inches wide by 7 5/8 inches high.

No. 2B—Similar to No. 1A. Holds nine Northern Six dry cells. Size of box, 14 5/8 inches long by 5 3/8 inches wide by 7 5/8 inches high.

### PUSH BUTTONS

Code No.	Description
1396	Wood push button.

Prices Quoted on Application



No. 11A Connecting Block



No. 11B Extension Bell



No. 1A Battery Box



No. 1396 Push Button



## INTER-PHONE ACCESSORIES

### INTER-PHONE CABLE



For Interior Use



For Outside Use

The conductors are provided with double silk and single cotton insulation, which is colored in such a way that each pair and each single wire can be identified. The cable is then impregnated with a wax compound and is covered with servings of paper and a heavy braiding, which is given a heavy coat of fireproofing paint.

The impregnation with wax prevents the insulation from fraying when the cables are installed. It also serves to protect the formed ends against moisture.

Three general types of cable are provided. Each type has its particular use and care should be taken to order the proper cable for any desired purpose. These types are as follows:

1—Interior Cable with outside braiding treated with gray fireproofing paint. Use only in dry places.

2—Interior Cable with green glazed cotton outside braiding. Use only in dry places where exposed to view.

3—Outside Cable, lead covered. Always use this cable outside, and inside in every case where there is apt to be moisture even in a small degree.

Lead-covered cables are not listed with separate code numbers. Any fireproofed type of cable may be ordered with a lead sheath.

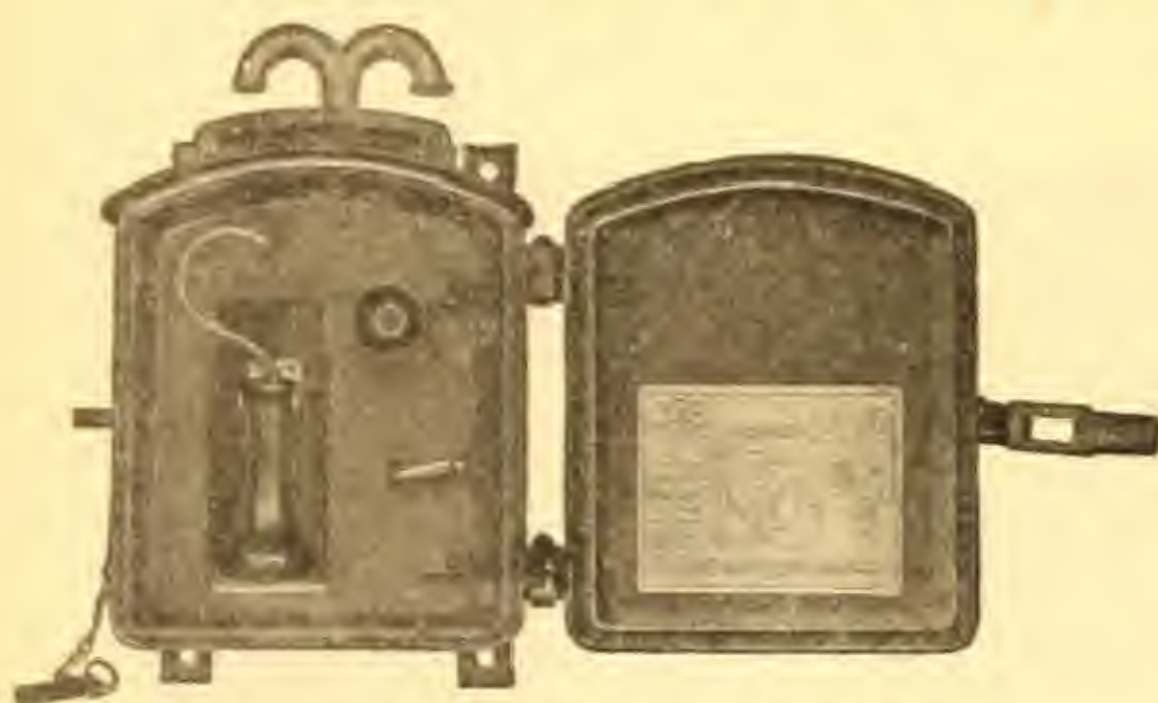
All cables are provided with a standard color scheme so that each pair can be distinguished from any other. The pairs are properly twisted to prevent inductive disturbances.

Code No.	Conductors B & S Gauge	Covering	Approx. Outside Diam. In.
161	8 singles No. 22	Fireproofed braid	5/8
161 (Lead)	8 singles No. 22	Lead sheath	5/8
142	8 singles No. 22	Green cotton braid	5/8
162	12 singles No. 22	Fireproofed braid	1 1/8
162 (Lead)	12 singles No. 22	Lead sheath	1 1/8
163	12 singles No. 22	Green cotton braid	1 1/8
164	6 singles No. 22, 2 pair No. 16	Fireproofed braid	1 1/8
164 (Lead)	6 singles No. 22, 2 pair No. 16	Lead sheath	1 1/8
165	6 singles No. 22, 2 pair No. 16	Green cotton braid	1 1/8
134	6 pair No. 22, 2 pair No. 16	Fireproofed braid	1 1/8
134 (Lead)	6 pair No. 22, 2 pair No. 16	Lead sheath	1 1/8
155	6 pair No. 22, 2 pair No. 16	Green cotton braid	1 1/8
141	12 pair No. 22, 2 pair No. 16	Fireproofed braid	1 1/8
141 (Lead)	12 pair No. 22, 2 pair No. 16	Lead sheath	1 1/8
156	12 pair No. 22, 2 pair No. 16	Green cotton braid	1 1/8
157	16 pair No. 22, 2 pair No. 16	Fireproofed braid	1 1/8
157 (Lead)	16 pair No. 22, 2 pair No. 16	Lead sheath	1 1/8
159	16 pair No. 22, 2 pair No. 16	Green cotton braid	1 1/8
158	20 pair No. 22, 2 pair No. 16	Fireproofed braid	1 1/8
158 (Lead)	20 pair No. 22, 2 pair No. 16	Lead sheath	1 1/8
160	20 pair No. 22, 2 pair No. 16	Green cotton braid	1 1/8
136	24 pair No. 22, 2 pair No. 16	Fireproofed braid	1 1/8
136 (Lead)	24 pair No. 22, 2 pair No. 16	Lead sheath	1 1/8
150	24 pair No. 22, 2 pair No. 16	Green cotton braid	1 1/8
140	31 pair No. 22, 2 pair No. 16	Fireproofed braid	1 1/8

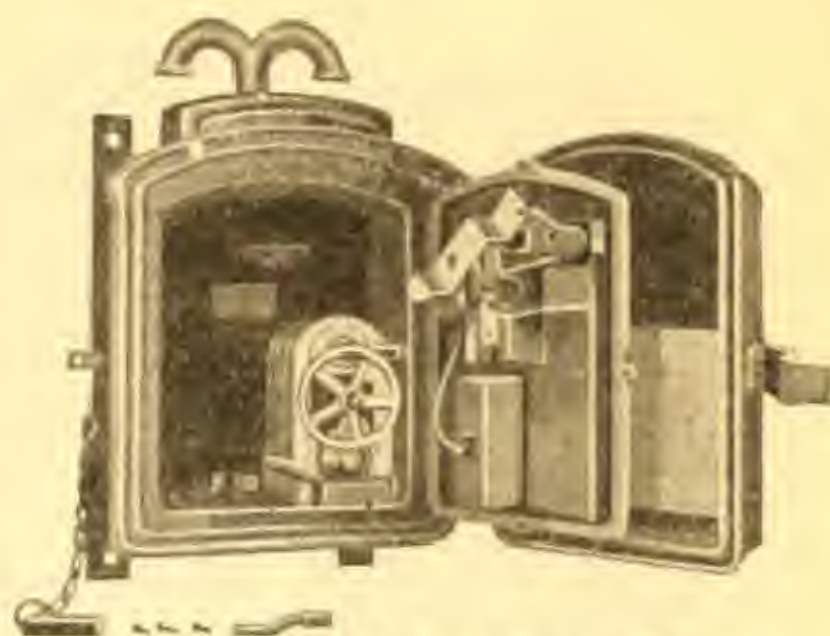
Prices Quoted on Application



## MINE TELEPHONE APPARATUS



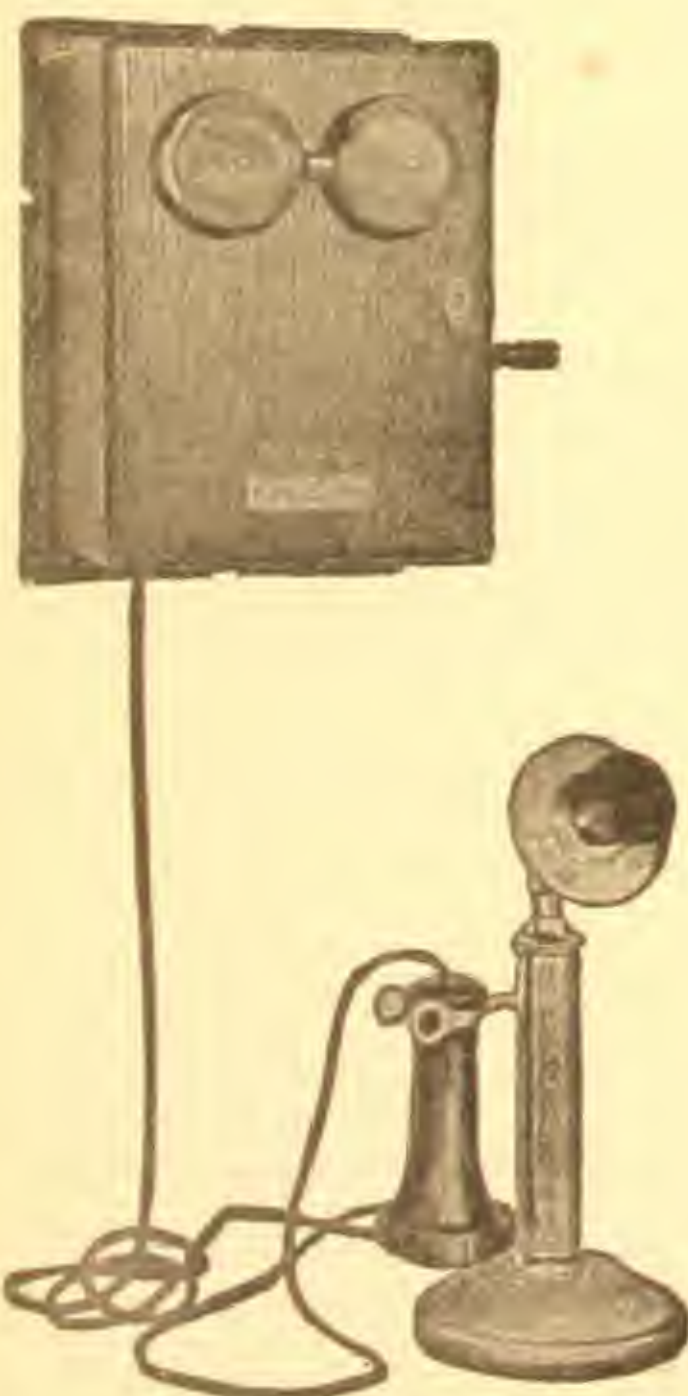
No. 1336 Type Set with Outer Door Open



No. 1336 with Both Doors Open



No. 1317 Type Telephone



No. N1300-A

The severe conditions encountered underground make it necessary to provide unusually well protected telephone apparatus for use in mines. For use above ground, in conjunction with the mine telephones, standard telephone instruments can be used unless it is proposed to place them in exposed locations; in that event metal telephones should be used.

### MINE TELEPHONES

The following descriptions cover the Western Electric Mine Telephone and regular telephones generally used above ground. Mine telephone systems usually consist of several instruments connected across one pair of wires, forming a party line. Local battery magneto telephones are used and signaling is done by code ringing. When there are more lines than one, they are usually terminated in a switchboard located at some central point such as the superintendent's office. For further information on mine telephone equipment write for handbook entitled "Mine Telephone Systems and How to Install Them."

### METAL TELEPHONES

Code No. 1336A—Iron box telephone for heavy load service. Not equipped with ringer. Contains 5-bar A. C. generator switch hook, induction coil, transmitter and receiver.

Code No. 1336E—Iron box telephone for heavy load service. Equipped with 2500-ohm ringer, 5-bar A. C. generator switch hook, induction coil, transmitter and receiver.

### WOODEN WALL TELEPHONES

Code No. 1317P—For use in buildings above ground. Contains a 2500-ohm unbiased ringer, 5-bar A. C. generator, induction coil, switch hook, transmitter, receiver and cords. Two Northern Six batteries and a No. 60A protector are furnished with each telephone and are included in the price.

Code No. 1317S—Same as No. 1317P, but with condenser in series with the receiver.

### DESK TELEPHONES

Code No. N1300-A—For use in buildings above ground. The telephone includes one No. N300-A deskset box, containing a 2500-ohm unbiased ringer, 5-bar A. C. generator and induction coil; one No. 1020PC desk stand, comprising stand, receiver, transmitter and cords.

### BATTERY REQUIREMENTS

Two Northern Six dry batteries are necessary for the satisfactory operation of any of the above telephones.

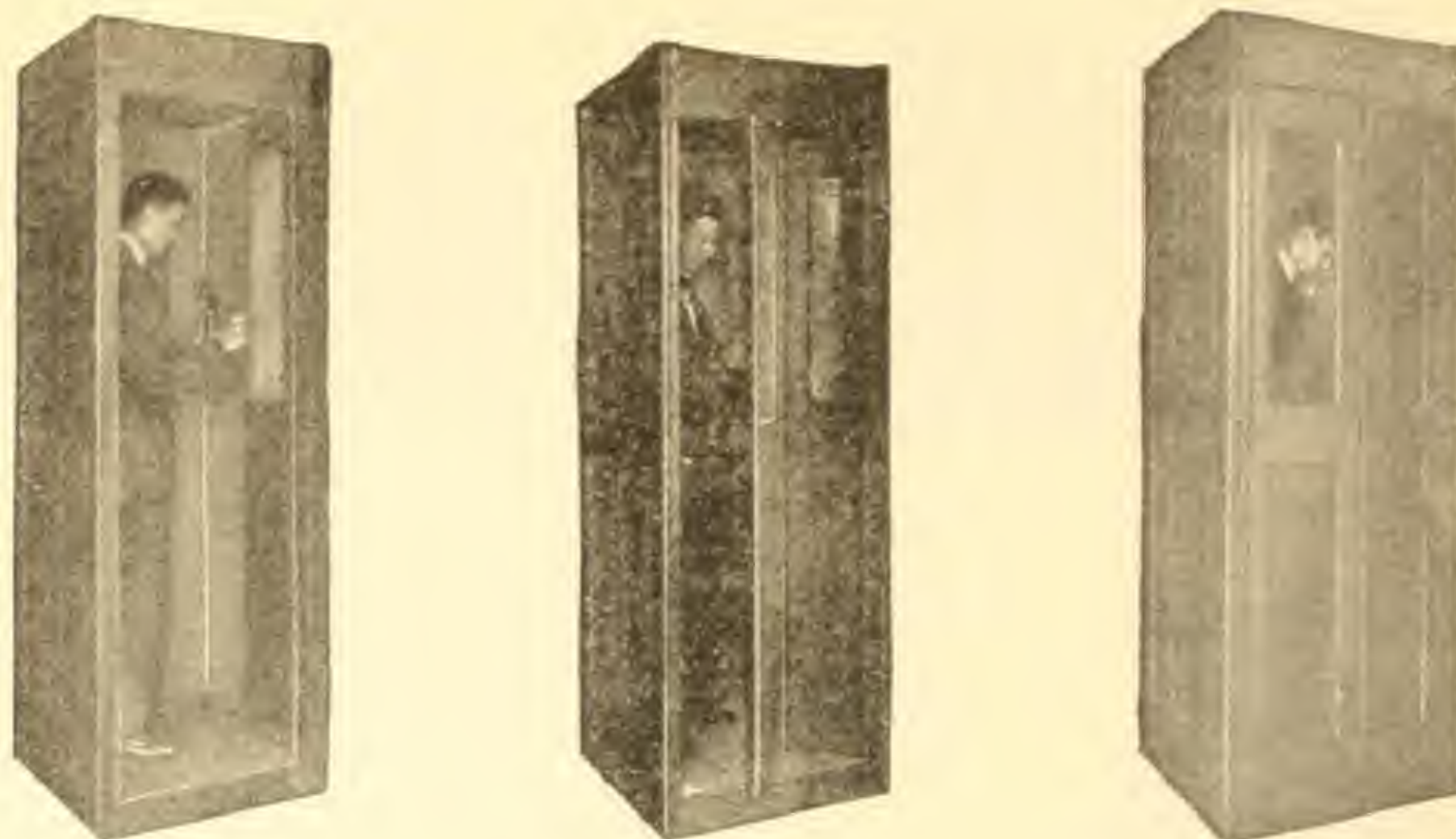
Batteries are not regularly furnished, however, (except in the case of No. 1317 sets), unless so specified on order. Batteries for use in metal type telephones on underground service should be ordered with special impregnated cartons which protect the cells from moisture.

Note.—The above telephones may be equipped with a condenser wired in the receiver circuit, and will be so furnished if specified on the order. This will insure good signaling in case a number of receivers are off their hooks.

Prices Quoted on Application



## TELEPHONE BOOTHS



## FOLDING DOOR TELEPHONE BOOTHS

The telephone booths shown are our standard types furnished in oak. We carry these in stock and are prepared to ship them promptly; also booths made of other woods than oak and booths of special finish and size. These special booths, however, are considerably more expensive than the standard booths which we carry in stock.

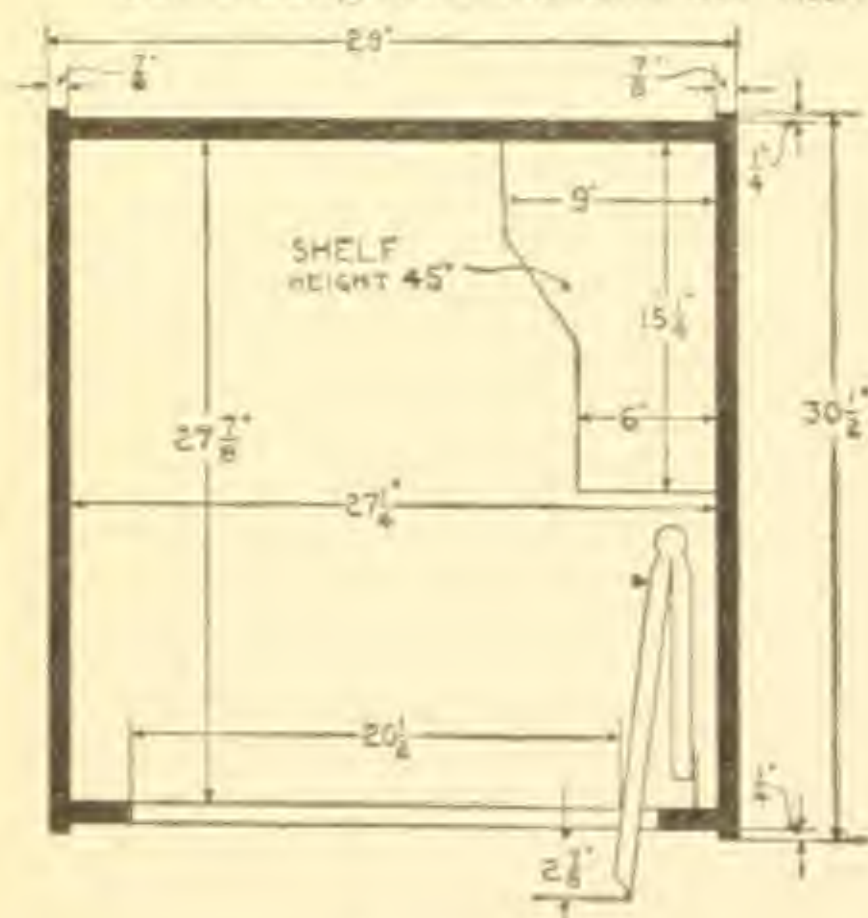
The booths are constructed from carefully selected, thoroughly seasoned, kiln-dried timber, and are perfect in design, material and workmanship. They are shipped "knocked down" and can be readily set up. A shelf is furnished as standard equipment for each booth. The standard booths have the door hinged on the right-hand side facing the booth.

These booths are compact enough to be used in narrow passageways. They are equipped with glass panels and door; serviceable for business offices, banks, factories, stores, clubs, hotels, and restaurants.

The folding door features are that the door operates both ways by pulling the handle, it

remains in any position, and stays closed without the use of catches. There are no tracks in the floor to gather dirt and become clogged. The ventilation is perfect. The door when operated extends only four inches beyond the face of the booth.

CONSTRUCTION.—Outside finished on front sides and back.



Dimensions

Code  
No.  
200001

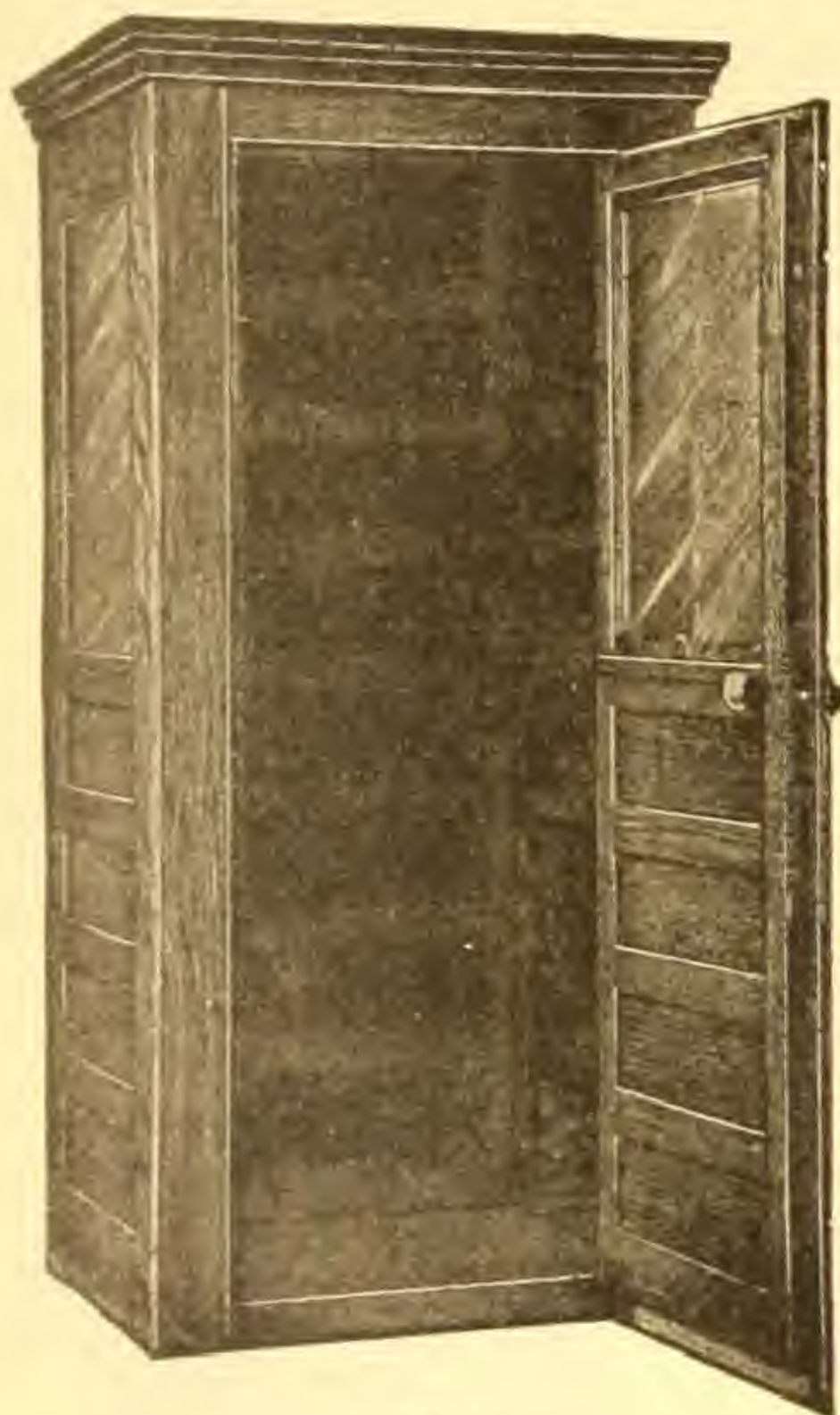
Type  
No.  
2

Description  
Folding door telephone booth

For Prices and Warehouse Deliveries write Nearest House



## TELEPHONE BOOTHS



No. 3



No. 1

Telephone booths are installed at the exchange, railway stations, stores, hotels, or wherever a telephone is located for the use of the public, as they provide privacy that usually cannot be secured in any other way. They are also desirable in factories or other noisy places.

Northern Electric booths have double interchangeable walls, and are made of selected kiln-dried lumber. Various styles are furnished to meet different conditions and tastes.

Doors are made to swing to right or left or fold in on themselves, the latter type of booth being very desirable where space is very limited. Glass can be furnished in one, two, or three sides as ordered.

### DIMENSIONS

	No. 3	No. 1
Outside floor space, inches	37x31	40x36
Inside floor space, inches	32x26	32 $\frac{1}{2}$ x29 $\frac{1}{4}$
Height, inches	84	86

The No. 3 is our standard type of booth, meeting the demand for a low priced booth of good appearance and finish.

For Prices and Warehouse Deliveries write Nearest House



## TELEPHONE APPARATUS

### CABLE TERMINALS

#### No. 8 Type

Wooden sealing chamber equipped with binding posts and provided with galvanized iron hood. Regularly supplied with 6-foot cable stub attached.

Code No.	Capacity Pairs	Protective Devices	Size Inches
8A	10	None	6 $\frac{1}{4}$
8C	26	None	6 $\frac{1}{4}$
8E	51	None	6 $\frac{1}{4}$
8F	61	None	6 $\frac{1}{4}$

#### No. 14 Type

Galvanized iron case and cover, and porcelain terminal block. Regularly supplied with 6-foot cable stub attached.

Code No.	Capacity Pairs	Protective Devices	Size Inches
14B	11	None	7 $\frac{1}{2}$ x7 $\frac{1}{2}$
14D	26	None	7 $\frac{1}{2}$ x14 $\frac{1}{2}$
14E	21	None	7 $\frac{1}{2}$ x12 $\frac{7}{8}$

#### No. 18 Type

Wooden sealing chamber provided with galvanized hood. Regularly supplied with 6-foot cable stub attached.

Code No.	Capacity Pairs	Protective Devices	Size Inches
18A	10	Fuses and carbon cutouts	8 $\frac{1}{2}$
18C	25	Fuses and carbon cutouts	8 $\frac{1}{2}$
18D	30	Fuses and carbon cutouts	8 $\frac{1}{2}$
18E	50	Fuses and carbon cutouts	8 $\frac{1}{2}$
18F	60	Fuses and carbon cutouts	8 $\frac{1}{2}$

#### No. 15 Type

Wooden box for joining underground and aerial cables. These terminals are not equipped with protectors which should be ordered separately.

Code No.	Capacity Pairs	Protective Devices	Size Inches
15A	100	77B Protector	20x38x9 $\frac{5}{8}$
15B	200	77B Protector	22x63x9 $\frac{5}{8}$

#### No. 17 Type

Wooden box for joining underground to aerial cables or for open wire distribution. Terminals are not equipped with protectors which should be ordered separately.

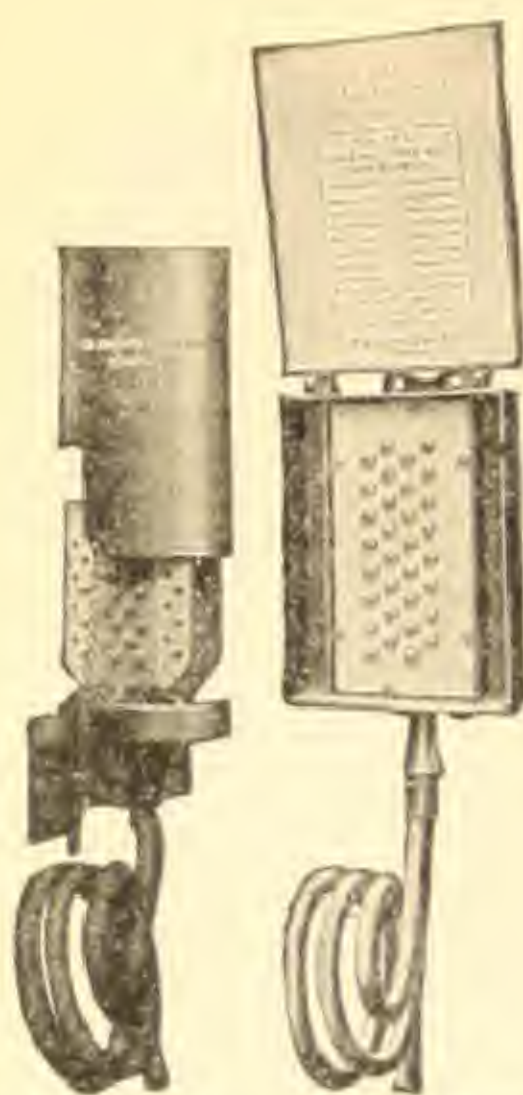
Code No.	Capacity Pairs	Protectors	Size Inches
N17-A	25	N7-A	20 $\frac{1}{2}$ x28 $\frac{1}{2}$ x10 $\frac{1}{2}$
N17-C	50	N7-A	20 $\frac{1}{2}$ x46 x10 $\frac{1}{2}$
N17-F	100	N7-A	34 $\frac{1}{2}$ x46 x10 $\frac{1}{2}$
N17-K	200	N7-A	56 $\frac{1}{2}$ x50 x10 $\frac{1}{2}$

#### No. 19 Type

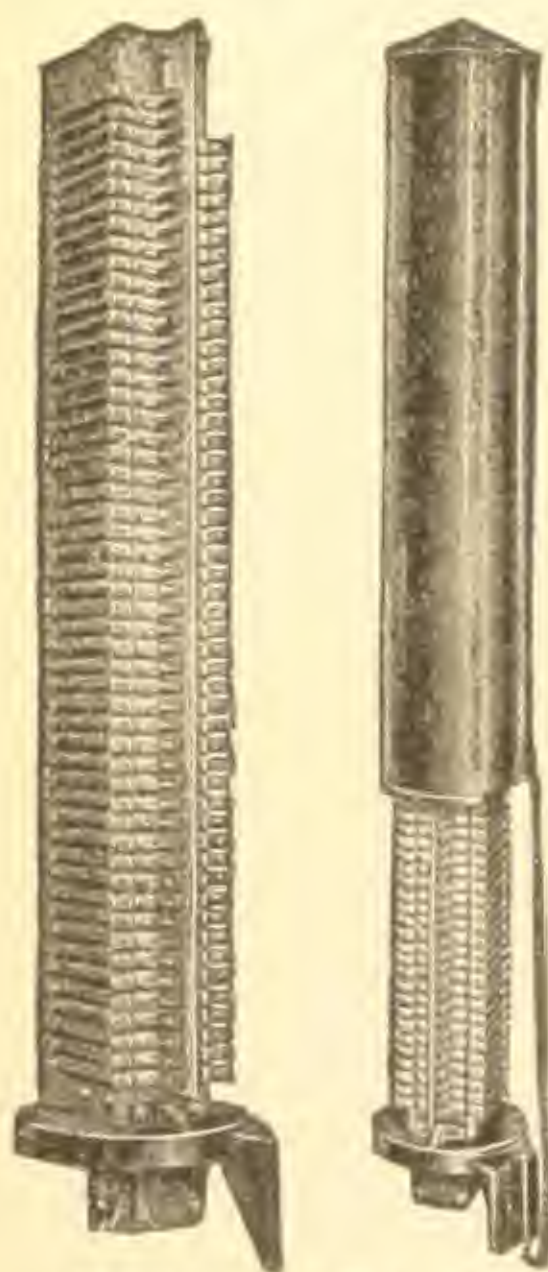
Wooden base provided with connecting strip and metal cover. Used for connecting cables in Inter-phone Systems.

Code No.	Capacity Pairs	Protectors	Size Inches
19A	14	None	8x5 $\frac{1}{8}$ x2 $\frac{1}{2}$
19B	26	None	14x5 $\frac{1}{8}$ x2 $\frac{1}{2}$

Prices Quoted on Application



No. 8 Type Cable Terminal Open      No. 14 Type Cable Terminal Open



Showing Detail No. 15 Type      With Cover Removed No. 17 Type



## TELEPHONE APPARATUS



No. N1-A Condenser

### CONDENSERS

Used in telephones on party lines where ringing trouble often occurs due to parties "listening in" or leaving their receivers off the hooks.

Telephones equipped with these condensers wired in series with the receiver overcome this difficulty and it is possible to ring satisfactorily on a line with several receivers off.

Code No.	Description	Capacity M.F.
N1-A	For magneto telephones	1/2

### GRAY COIN COLLECTORS OR PAY STATIONS

These collectors are used at public pay stations when toll collections are made on a cash basis.

No electrical connections necessary, the collector being attached to the telephone by screws and gives the signal to the operator automatically when coins are deposited. No levers to operate.

Code No.	Type	Slots for	Size Inches
11	Wall telephone	Nickel, dime and quarter	9x4 1/2 x 3
14	Desk telephone	Nickel, dime and quarter	9x4 1/2 x 3



No. 11 Coin Collector

### CORDS

#### FOR TELEPHONE SETS AND SWITCHBOARDS

There is a Northern Electric cord to fit any telephone set or switchboard. If none of the cords described below meet with your requirements, write us, sending if possible a sample cord (an old one will do) or a sketch, paying particular attention to the kind of tip required.

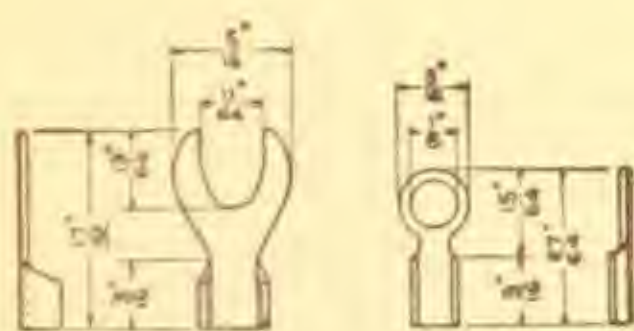
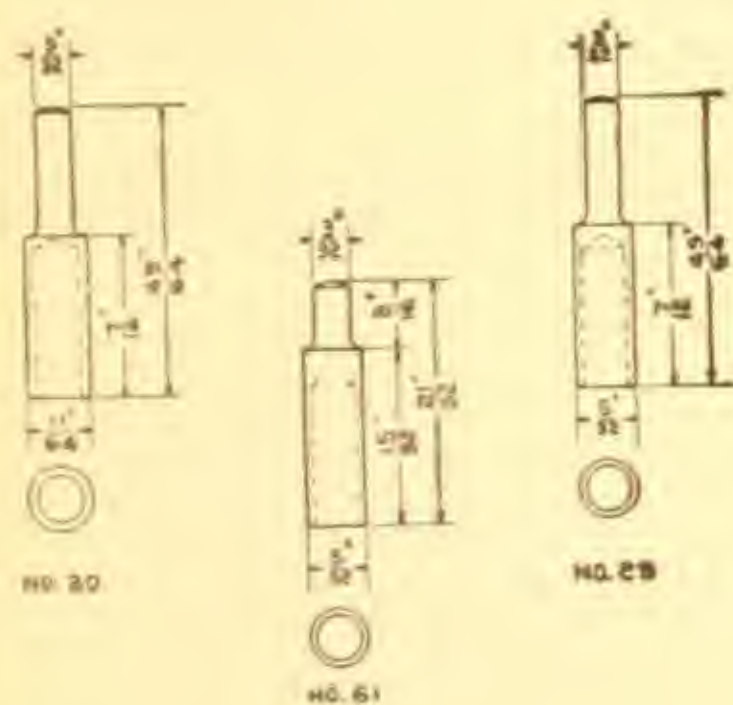
Always specify length of cord when ordering.

#### Telephone Receiver Cords

Code No.	Description	Stack Length	Cord Tip
10	Two-conductor cord, green silk covering.	3 ft.	No. 29, receiver end. No. 62, set end.
92	Two-conductor cord, red and blue worsted covering.	3 ft.	No. 30, receiver end. No. 62, set end.
454	Same as No. 92 except for tips.	3 ft.	No. 30, both ends.

#### Desk Stand Cords

549	Two-conductor cord, green silk covering; for use with receiver on No. 1020 desk stand.	2 1/2 or 3 ft.	No. 62, stand end. No. 29, receiver end.
547	Single-conductor cord, green cotton covering; for use with transmitter on No. 1020 desk stand.	9 1/8 in.	No. 62, stand end. No. 52, transmitter end.
548	Single-conductor cord, green cotton covering; for use with transmitter on No. 1020 desk stand.	9 1/8 in.	No. 62, stand end. No. 55, transmitter end.
550	Three-conductor cord, green silk covering; for use with No. 1020 desk stand to connect it with desk set box.	5 1/2 ft.	No. 62, both ends.



No. 62

No. 35

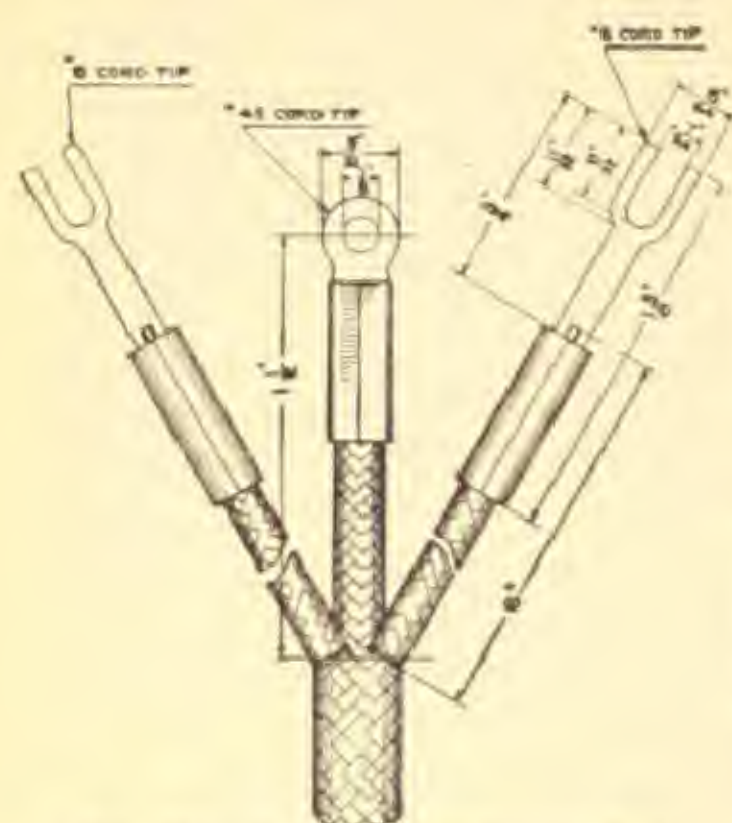
Cord Tips

Prices Quoted on Application



## TELEPHONE APPARATUS

### SWITCHBOARD CORDS



No. 493—Cord, Switchboard End

Northern Electric switchboard cords will be found to have exceptional strength and wearing qualities, and will stand up longer in service than any other cords manufactured.

In the past the Northern Electric Company's steel switchboard cords for local service have been extremely popular because of their superior construction and long life, tinsel cords, on account of their much shorter life, being used only in toll switchboards where a high grade of transmission was absolutely essential.

For several years our engineers have been engaged in exhaustive studies of different grades of tinsel with the object in view of obtaining a product which, when used in switchboard cords, would maintain the high transmission qualities of this type of cord and at the same time have a service life equal at least to that of the steel cord.

Our efforts in this direction have been more than gratifying, and we are now prepared to offer a tinsel switchboard cord which is superior both as regards life and transmission qualities to any cord before produced, either steel or tinsel, and is at the same time moisture proof, which is a wonderful improvement and advantage.

### CENTRAL OFFICE CORDS—NO PLUGS INCLUDED

It is customary to use 4-foot switchboard and 4-foot or 4½-foot operator's telephone cords on small magneto and private exchanges, and 6-foot switchboard and operator's telephone cords on other boards.

These lengths are carried in stock but others will be furnished on request. The switchboard cords are regularly made in four colors—red, white, fawn and green. The fawn cords are furnished unless another color is specified.

In ordering, give the Code No., length and color of cord, and if plugs are to be attached, give the Code No. of the plugs. Also specify cord tips if other than the usual ones are required. No extra charge is made for attaching plugs to cords.

Code No.	Description	Used with	Stock Length Feet	Cord Tips
493	Two-conductor tinsel switchboard cord; furnished in white, red, green or fawn covering, as specified	No. 47 or No. N47 plugs on switchboards.	4 or 6	No. 8, cord fastener end. No. 38, plug end. No. 45, stay cord.
87	Four-conductor tinsel cord, green silk covering.	Operator's head receiver and chest transmitter when attached to No. 103 or No. 112 plug.	4 or 6	No. 38, plug end. No. 29, receiver end.
437	Single-conductor tinsel cord, green silk covering.	Suspended type switchboard transmitter.	6	No. 38, transmitter end. No. 29, transmitter end.
10	Two-conductor tinsel cord, green silk covering.	Switchboard head receiver when no plug is used.	4½ or 6	No. 62, switchboard end. No. 62, switchboard end. No. 29, receiver end.
369	Two-conductor tinsel cord, green silk covering.	Switchboard head receiver when attached to No. N47 or No. 136 plug.	4½ or 6	No. 38, plug end. No. 29, receiver end.



## TELEPHONE APPARATUS

### DESK SET BOXES

These desk set boxes do not include transmitters and receivers, but are intended for use with desk stands, transmitter arms or hand sets. A hand generator, ringer, and induction coil generally comprise the equipment. It will, however, be noted in the following list that there are several exceptions; for instance, on rural lines where code ringing is employed, a condenser may be included and connected in series with the receiver to secure good signalling in case several receivers are off their hooks at the time of sending the signal.

The sets are also arranged so that a condenser may be connected in the ringing circuit. This is done when the set is to be temporarily used on central battery lines, as for example, when a magneto system is being changed to a central battery system.

The following list gives the various forms of our magneto desk set boxes. They are regularly furnished in oak or walnut, with inside binding posts. No provision is made in these boxes for the dry cells; it is recommended that our No. 1-A battery box be ordered with this equipment.

Code No.	Description
N300-G	For light load bridging service where code ringing is employed. Set contains: One No. 38-AG 1000-ohm ringer; one 3-bar No. 22-A generator; one No. 13 induction coil. Ten or twelve of these sets may be operated on a 12 or 15-mile line of No. 12 B. W. G. iron wire.
N300-R	For moderate load bridging service where push button system of signalling central without ringing other subscribers on the line is used. Set contains: One 1600-ohm No. 38-FG ringer; one 5-bar No. 48-A generator; one No. 13 induction coil; one No. N1-A condenser; one N1-A key. Thirty of these sets may be operated on a 20-mile line of No. 12 B. W. G. iron wire. A one-half microfarad condenser No. N1-A is wired in series with the receiver to insure the ringing of the bells even if a receiver is left off the hook.
N300-A	For heavy load rural service where code ringing is employed. Set contains: One 2500-ohm No. 38-BG ringer; one 5-bar No. 48-A generator; one No. 13 induction coil. Forty of these sets may be operated on a 35-mile line of No. 12 B. W. G. iron wire.
N300-C	For heavy load rural service where push button system of signalling central without ringing other subscribers on the line is used. Set contains: One 2500-ohm No. 38-BG ringer; one 5-bar No. 48-A generator; one No. 13 induction coil; one No. N1-A condenser; one No. N1-A key. Forty of these sets may be operated on a 25-mile line of No. 12 B. W. G. iron wire. A one-half microfarad condenser No. N1-A is wired in series with the receiver to insure the ringing of the bells even if a receiver is left off the hook.
315-H	For light load bridging service where code ringing is employed. Set contains: One 1000-ohm No. 38-AG ringer; one 3-bar No. 22-A generator; one No. 13 induction coil. Ten or twelve of these sets may be operated on a 12 or 15-mile line of No. 12 B. W. G. iron wire. NOTE.—This set is similar to the No. N300-G set except that it cannot be equipped with a 5-bar generator.

Prices Quoted on Application



## TELEPHONE APPARATUS



No. 292 Loud Ringing Extension Bell

No. N43  
Extension BellMica Fuse  
Western Union StyleMica Fuse  
Postal Style

No. 7A Fuse



No. 11C Fuse



No. 12A Fuse



No. 1020-AL Desk Stand

## DESK STANDS

With Transmitters, Receivers and Cords

Code No. 1020-L—For regular bridging magneto service. Insulated transmitter. Includes one No. 20-AL desk stand, one No. 291 transmitter, one No. 143 receiver, and one No. 450 combination cord. Black finish.

Code No. 1020-PC—Same as No. 1020-AL except that No. 20-PC nickel finish stand is used.

## EXTENSION BELLS

No. 292 Loud Ringing Type

Code No. 292-T—1000-ohm loud ringing unbiased bell, having a metal base and cover, and 6-inch galvanized gongs. Base and cover black finish, and all parts effectively treated to withstand the action of moisture and fumes.

Code No. 292-U—2500-ohm bell; otherwise as above.

Code No. 292-AA—1600-ohm bell; otherwise as above.

## No. 127 Type

Code No. N43-AA—1000-ohm high efficiency ringer No. 38-AG mounted in wooden box with two inside binding posts.

Code No. N43-AB—2500-ohm No. 38B.G. ringer.

Code No. N43-AF—1600-ohm No. 38F.G. ringer.

## MICA FUSES

Furnished either with copper or foil tips, in either Western Union or Postal style. The fuse is mounted on a mica base or enclosed between two strips of mica. When ordering, always specify ampere capacity desired and it is best to send sample of fuse wanted (an old one will do). If this is not possible, be sure to give the following information:

Length.

Style—whether Western Union or Postal.

Kind of terminals or tips—copper or tin foil.

Use—whether for exchange or telephone protection.

## TUBULAR FUSES

FOR NORTHERN ELECTRIC PROTECTORS

With Fiber Shell

Regularly furnished in 7-ampere capacity unless otherwise specified, although fuses of from 1 to 8-ampere capacity can be furnished, if so ordered. No. 12 fuse contains a heat coil.

Code No. 7-A—Used with protector No. 7-A.

Code No. 11-C—Used with protectors Nos. 58-A and 58-B.

Code No. 12-A—Used with protector No. 12-A.

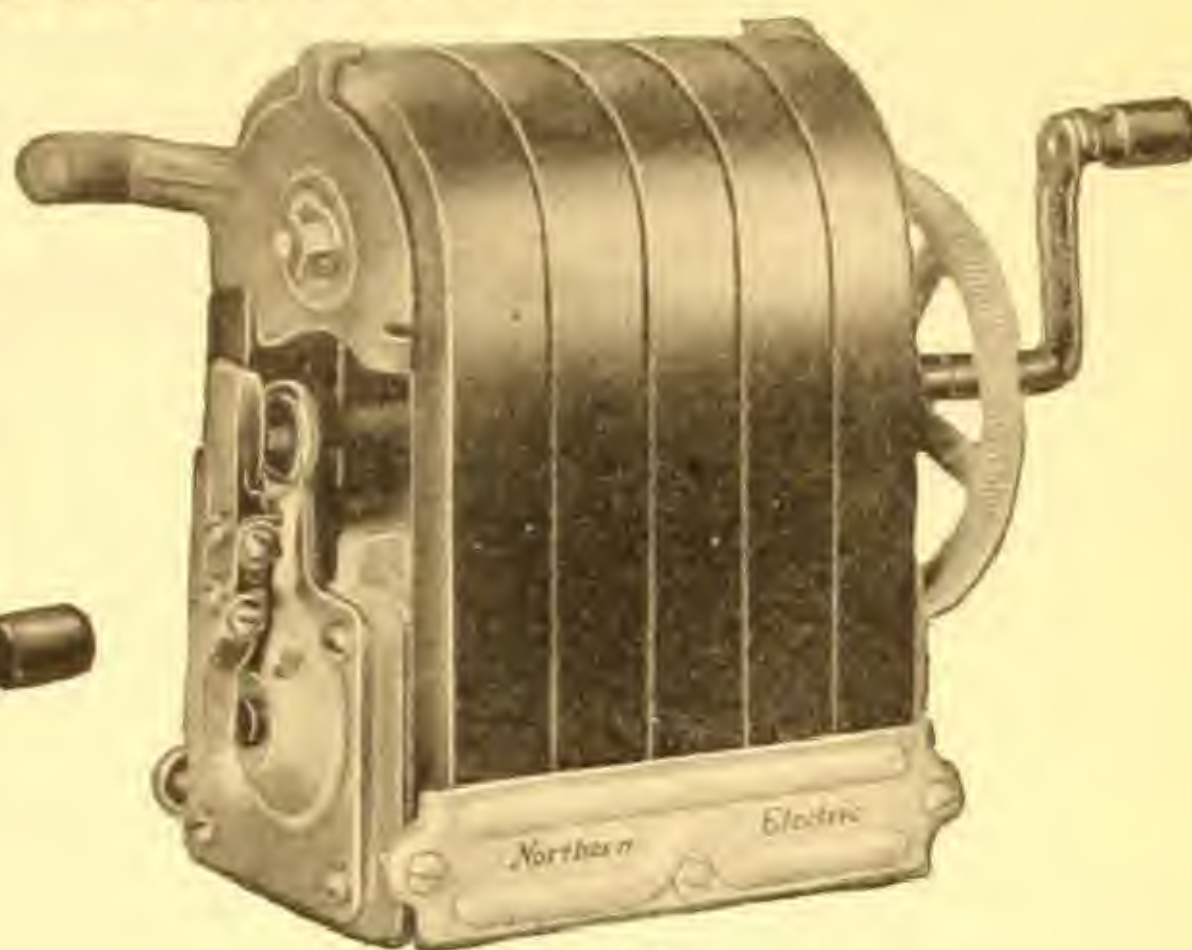
Prices Quoted on Application



## TELEPHONE APPARATUS



No. 22A Generator



No. 48A Generator

### HAND GENERATORS



No. 1002AC Hand Set

Code No.	No. of Bars	Current	Used in
22A	3	Alternating	Magneto telephone sets.
48A	5	Alternating	Magneto telephone sets.
48B	5	Alternating and pulsating	Magneto telephones and switchboards.
48H	5	Alternating	Switchboards.

### HAND SETS

Code No. 1002-AC

For use in place of a regular bridging desk stand or transmitter arm. Equipped with No. 141W receiver, No. 267W transmitter, and No. 318 cord.

### HEAT COILS



No. 67A Heat Coil

Code No.	Description
40	Brass dummy of cylindrical shape.
67A	Red hard rubber shell for magneto or central battery equipments.
70A	Black fiber dummy.

These heat coils are used with protector No. 84B and No. 1435M protector groups.



No. 13 Induction Coil

### INDUCTION COILS

Code No.	Dimensions Inches	Used in
13	1x3 1/4	All standard bridging magneto telephones.
23	4 1/4 x 1 9/16	No. 1200 switchboards.



No. 23 Induction Coil

Prices Quoted on Application



## TELEPHONE APPARATUS

## PROTECTORS FOR TELEPHONES



No. 58-A Protector



No. 60-A Protector

Code  
No. Used with  
58-A Magneto telephone sets

58-B Magneto telephone sets

## No. 58 Type

Protection against  
Lightning and crosses with  
electric circuits.

Lightning and crosses  
with electric circuits.

## Consists of

Two No. 11-C 7-ampere fuses,  
two carbon blocks and mount-  
ings.

Two No. 11-C 7-ampere fuses,  
two copper blocks and mount-  
ings.

60-A Magneto telephone sets

60-B Magneto telephone sets

60-E Magneto telephone sets

## No. 60 Type

Lightning

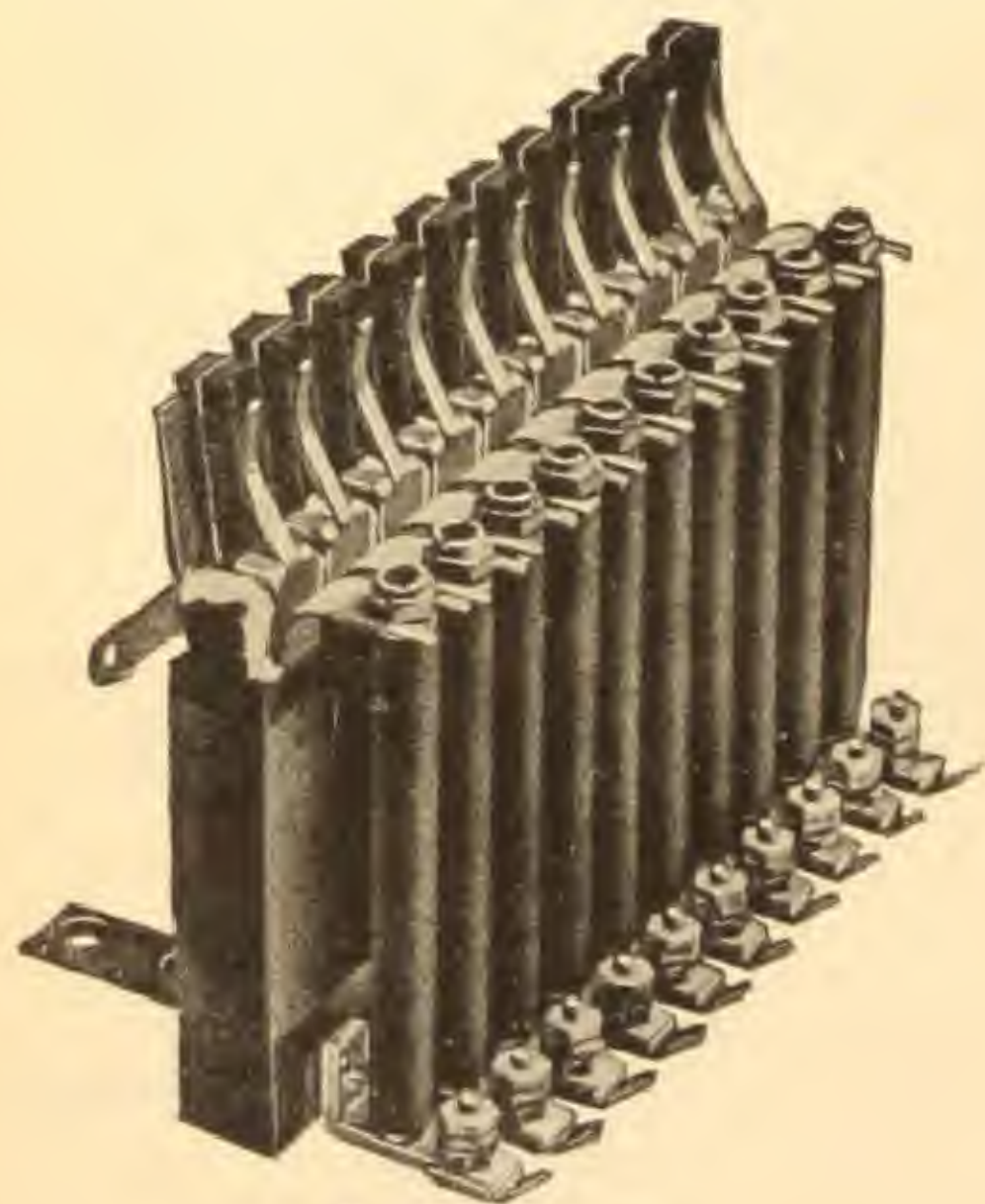
Lightning

Lightning

Two carbon blocks and mount-  
ings.

Two copper blocks and mount-  
ings.

One copper and one alloy  
block and mountings.



No. 61B Protector

## PROTECTORS FOR SWITCHBOARDS

## No. 61 Type

These protectors are mounted in strips, and are designed to mount on the wall near the switchboard.

In ordering, specify the number of lines for which protection is desired.

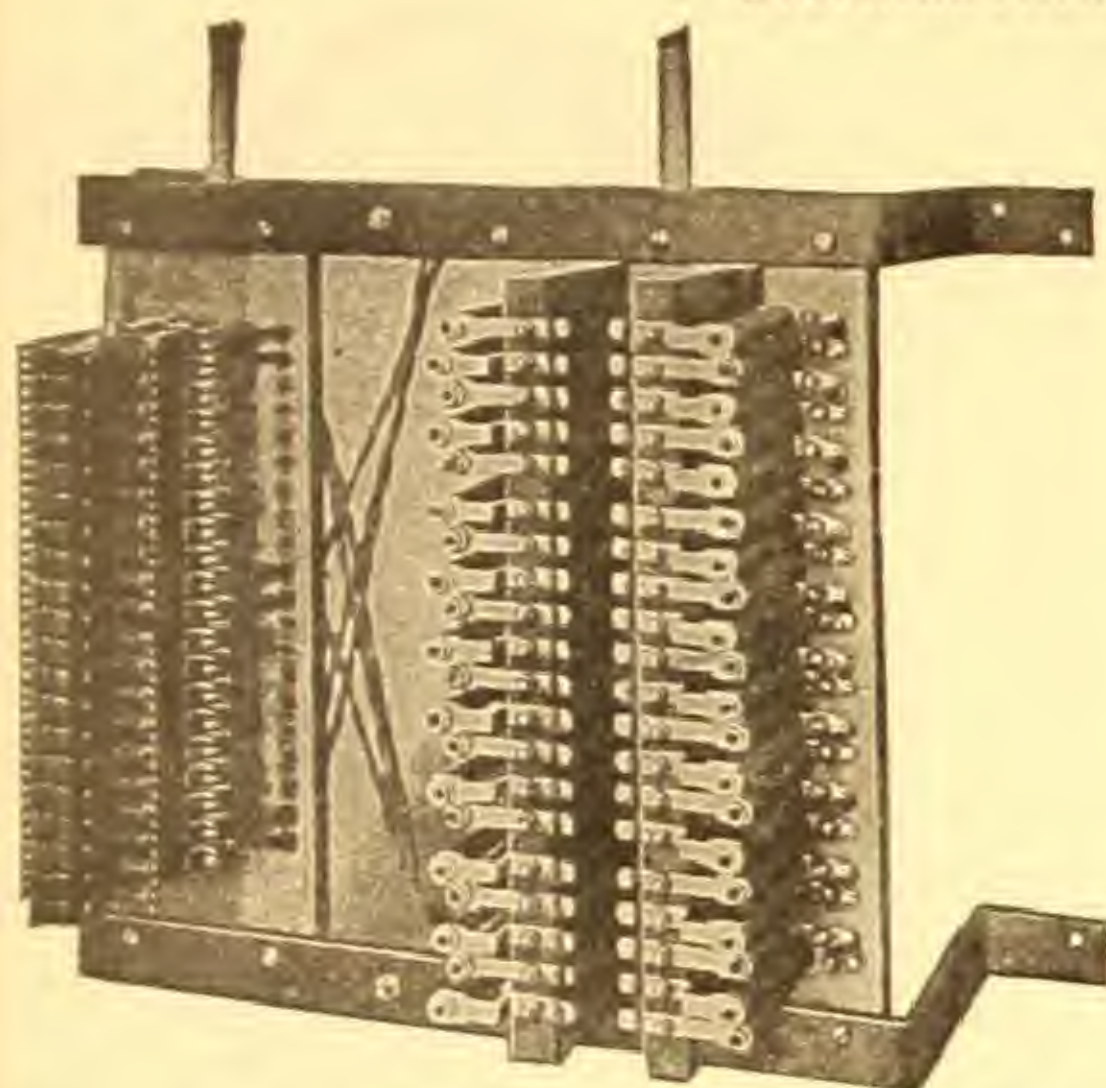
This protector is recommended for small switchboards No. 106, No. 1012, or Pony types.

Code No.	Used With	Protection against	Consists of
61-B	Central offices and cable terminals.	Lightning and crosses with electric circuits.	One No. 7A 7-ampere fuse, two copper blocks and a No. 58 protector mounting.

Prices Quoted on Application



## TELEPHONE APPARATUS DISTRIBUTING FRAMES



No. 1431A, 20-line Main Distributing Frame Equipped with two No. 1435M and one No. 1435J Protector Groups

In ordering, it will be necessary to specify the protector groups desired, consulting the following table.

### PROTECTOR GROUPS

These groups have capacity for 20 lines and are designed for mounting on the No. 1431A Distributing Frame described above.

Code No.	Protection against	Equipped with	For Terminating
1435J	Crosses with electric light or power circuits.	No. 7A fuses.	Outside lines.
1435R	None.	Terminal punchings.	Outside lines.
1435M	Lightning and sneak currents.	Carbon blocks and No. 67A heat coils.	Inside lines.



No. 1 Block



No. 2 Block



No. 19 Block



No. 20 Block



No. 3 Mica



No. 10 Mica

### PROTECTOR BLOCKS

Code No.	Description
1	Plain carbon block with small fuse metal button.
2	Grooved carbon block without fuse metal button to be used with No. 1 block.
19	Copper block with two pins which fit into bushed holes of the No. 20 block.
20	Copper block to be used with No. 19 block.
21	Metal alloy block; similar in other respects to the No. 19 block.

Used with Protectors
Nos. 12A, 58A, 60A, 87BA, and 1435M Protector Groups.
Nos. 12A, 58A, 60A, 87BA, and 1435M Protector Groups.
Nos. 58B, 60B, and 61B.
Nos. 58B, 60B, and 61B.
No. 60E.

### PROTECTOR MICAS

Code No.	Protector Blocks Used Between
3	Nos. 1 and 2 blocks.
10	Nos. 19 and 20, or 21 and 20 blocks.

Used with Protectors
Nos. 12A, 58A, 60A, 87BA, and 1435M Protector Groups.
Nos. 58B, 60B, and 60E.

Prices Quoted on Application



## TELEPHONE APPARATUS



No. 1006D Test Set



No. 1017B Test Set

## LINEMEN'S TEST SETS

## No. 1017 Type

A wooden box telephone test set equipped with a regular local battery talking circuit consisting of a standard transmitter, induction coil, receiver, and a special 3-cell dry battery unit. Can be used on either magneto or central battery lines.

Code No. 1017B contains the following equipment: One No. 2D buzzer, one No. 29B 2-bar A. C. generator, one No. 370 cord, one No. 13 induction coil, one No. 266W transmitter, one No. 145W receiver.

Code No.	Will Ring Through Ohms	Size of Case Inches	Finish
1017B	2500	$4\frac{3}{4} \times 6\frac{1}{2} \times 7\frac{3}{4}$	Birch Mahogany

Batteries not furnished unless ordered.

## No. 1006 Type

A wooden box test set in which the No. 125W receiver is also used as a transmitter. The use of the No. 1017B is recommended on account of its higher transmitting efficiency.

Code No. 1006D contains the following equipment: One No. 2A buzzer, one No. 22B generator, one switch, one No. 125W receiver with cord, two No. 9A binding posts, two No. 26A binding posts, receiver holder.

Code No.	Will Ring Through Ohms	Size, Case Inches	Finish
1006D	5000	$6\frac{3}{4} \times 6 \times 4\frac{3}{4}$	Cherry

## MAGNETO TESTING SETS

Each set consists of a hand generator and a ringer, wired in series, and enclosed in a wooden case.

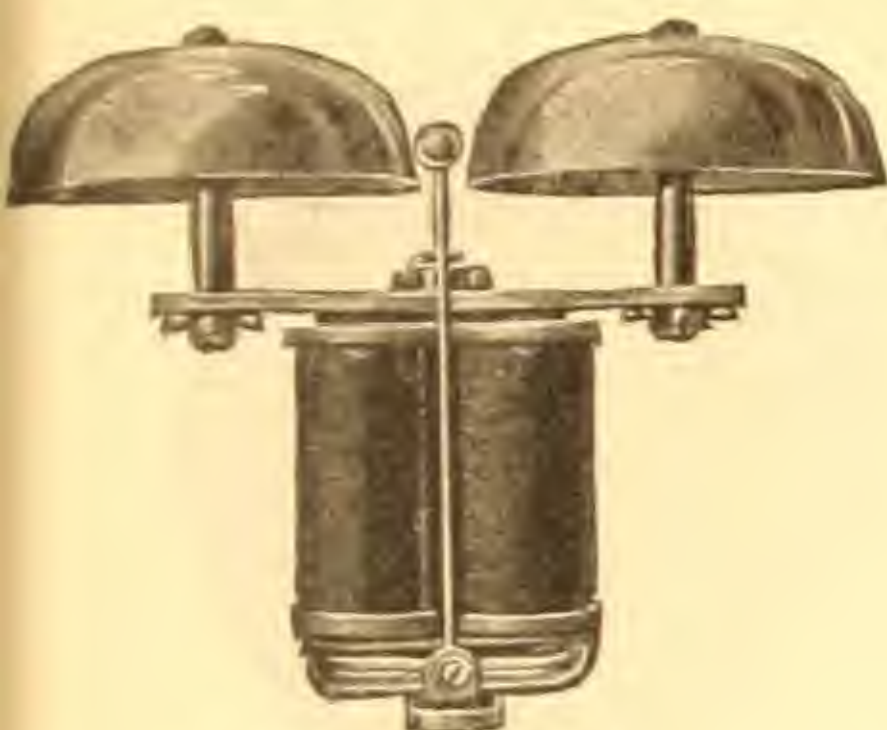


No. 90510

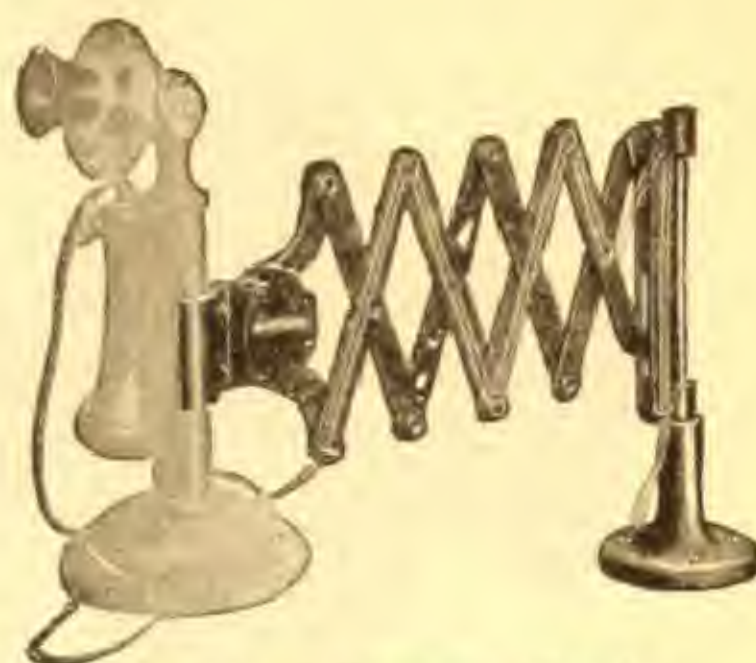
Code No.	Will Ring Through Ohms	Contains	Size Case Inches	Finish
90530	10000	One No. 22 Type Generator One No. 18A Ringer	$5\frac{3}{4} \times 6\frac{5}{8} \times 5\frac{1}{4}$	Birch
90510	35000	One No. 22K Generator One Special No. 19 Type Ringer	$5\frac{3}{4} \times 6\frac{5}{8} \times 5\frac{1}{4}$	Birch
90511	50000	One No. 22N Generator One No. 19A Ringer	$5\frac{3}{4} \times 6\frac{5}{8} \times 5\frac{1}{4}$	Birch
90512	100000	One No. 22N Generator One No. 19B Ringer	$5\frac{3}{4} \times 6\frac{5}{8} \times 5\frac{1}{4}$	Birch



## TELEPHONE APPARATUS



No. 38 Type Ringer



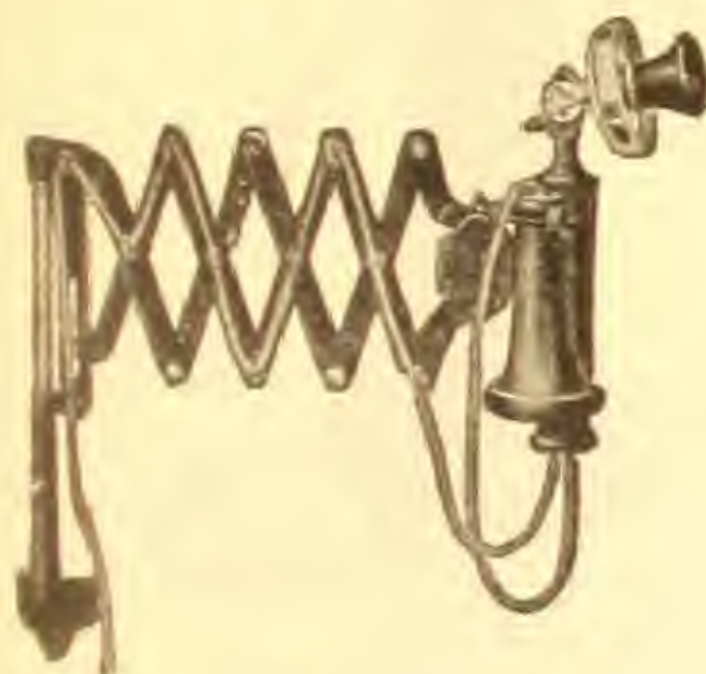
No. 147AC Telephone Bracket

### HIGH EFFICIENCY TELEPHONE RINGERS

#### No. 38 Type

#### Long Coils, Unbiased

All No. 38 Type Ringers listed below have gong posts suitable for mounting on  $\frac{3}{8}$ -inch woodwork. Spacers can be furnished, however, to adapt them for mounting on  $\frac{3}{8}$ -inch or  $\frac{1}{2}$ -inch woodwork.



No. 1048AB  
Transmitter Arm

Code No.	Approx. Resistance Ohms	Mfrs. No.	Approx. Resistance Ohms
38AG	1000	38FG	1600
38BG	2500	38JG	50

### TELEPHONE BRACKETS

#### No. 147 Type

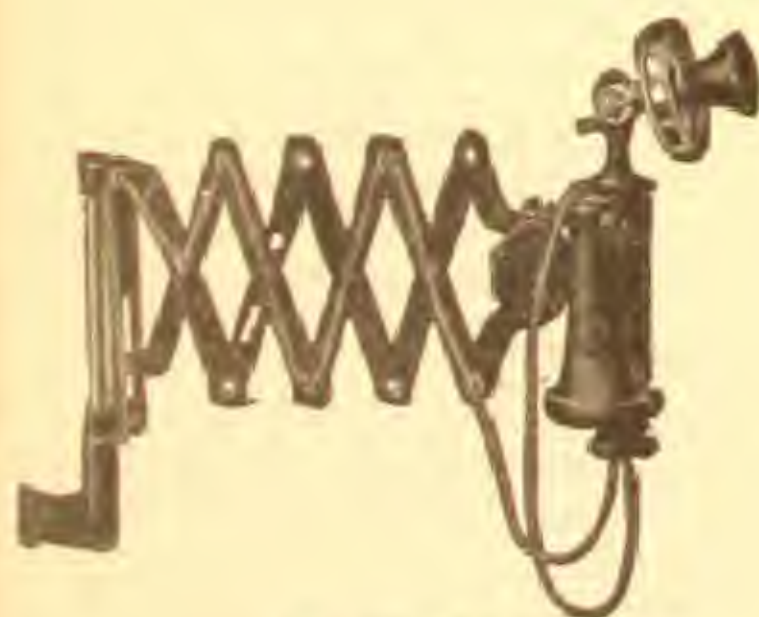
A strong collapsible arm arranged with a clamping device to hold a telephone desk stand. Black enamel finish.

Code No.	Length, Arm, Inches		Description
	Closed	Extended	
147AA	8 $\frac{1}{4}$	24	For mounting on either side of a roll top desk.
147AB	8 $\frac{1}{4}$	24	For mounting on the side of a flat top desk or on the wall.
147AC	8 $\frac{1}{4}$	24	For mounting on the top of a flat top desk.
147CA	10	36	Same as No. 147AA except length.
147CB	10	36	Same as No. 147AB except length.
147CC	10	36	Same as No. 147CC except length.

The desk stand is not included in the price of the arm, and must be ordered separately.

### TELEPHONE TRANSMITTER ARMS

Extensible arms for mounting on wall or desk, with transmitter receiver and cord. Black finish.



No. 1048AA  
Transmitter Arm

Code No.	Extension, Inches	Description
1048AB	9 $\frac{3}{4}$ to 27 $\frac{1}{4}$	For mounting on wall.
1048AA	9 $\frac{3}{4}$ to 27 $\frac{1}{4}$	For mounting on roll top desks.
1048AC	9 $\frac{3}{4}$ to 27 $\frac{1}{4}$	For mounting on flat top desks.

Prices Quoted on Application



## TELEPHONE APPARATUS



No. 323



No. 232



No. 234



No. 143



No. N151

## TRANSMITTERS

**Code No. 323—With Lug**

High resistance insulated type transmitter. Used on desk stands, transmitter arms, and No. 1305 wall telephone sets.

**Code No. 232—Switchboard, Suspended Type**

High resistance transmitter arranged to be suspended by two cords entering the side of case.

Used on magneto switchboards.

**Code No. 234—Operator's Chest Type**

Switchboard operator's chest transmitter arranged to be supported from the neck by a No. 3 transmitter attachment. This attachment is not furnished with the transmitter unless so ordered.

## RECEIVERS

**Code No. 143**

Concealed binding post hand receiver. Used with telephone sets, desk stands, telephone arms, etc.

**Code No. B151**

Standard bipolar head receiver, hard rubber case. Used with operator's telephone set, all switchboards.

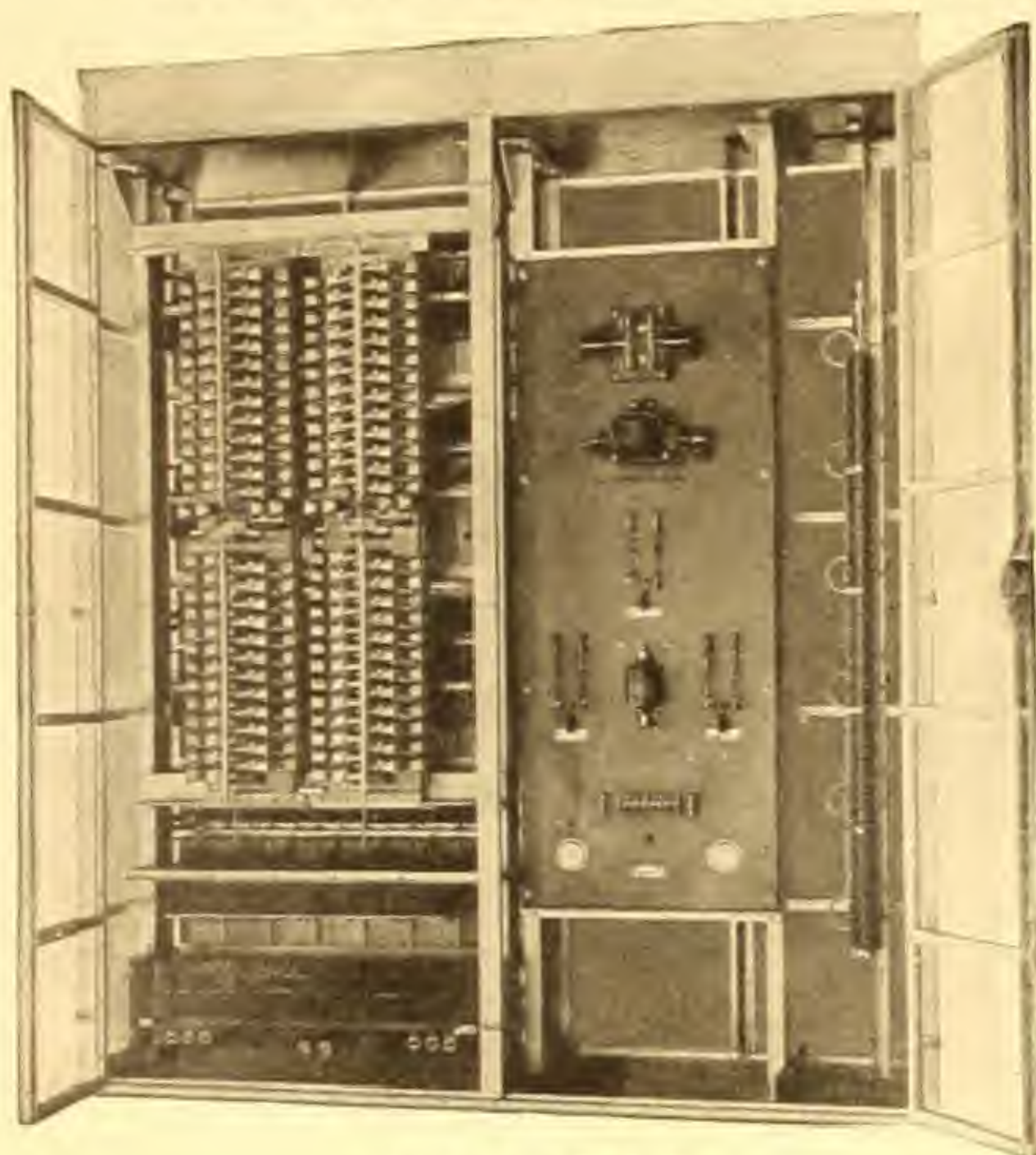
Cords are not included with the above receivers, but must be ordered separately.

Prices Quoted on Application



## AUTOMATIC TELEPHONE APPARATUS

### AUTOMATIC TELEPHONE SWITCHBOARDS



100-telephone P. A. X.

No. A-100 is a fully equipped 100-telephone automatic switchboard. It is capable of rendering intercommunicating service, code calling, conference calling, credit system, and watchman's service.



Wall Type Automatic Telephone



Desk Type Automatic Telephone

#### WALL TYPE AUTOMATIC TELEPHONES

No. 1293-DP series circuit wall set consists of No. N-293-DP Subs. Set plus No. 323 transmitter, No. 171-W receiver, No. 92 receiver cord 2 ft. 6 in. long, and No. N1-D dial. All exposed metal parts have a black finish.

#### DESK TYPE AUTOMATIC TELEPHONES

No. N-1020-UN desk type telephone includes one No. N-20-UN desk stand plus No. 323 transmitter, No. 171-W receiver, No. N1-F dial, No. N-178-B receiver cord, 2 ft. 6 in. long, No. N-180-A desk stand cord, 5 ft. 6 in. long, black finish.

Prices Quoted on Application



**AUTOMATIC TELEPHONE APPARATUS****WEATHERPROOF TYPE AUTOMATIC TELEPHONES**

Weatherproof Type

The weatherproof type automatic telephone is designed for use in railway yards, on docks and wharves, in lumber yards and mines. It is enclosed in an iron, weatherproof box. The signaling gongs are wired to any location desired, and gongs of any size can be used.

**PRIVATE AUTOMATIC EXCHANGE EQUIPMENT**

The private automatic exchange allows each subscriber to control connection and disconnection by means of the telephone and the calling device attached to his telephone instrument. It has long since established itself not only as to the practicability of the apparatus, but also in the esteem of the public, as the only type private automatic exchange equipment which has given commercial service to any considerable extent.

Telephone sets may be of either wall or desk type for interior use, or moistureproof for exposed location, and are equipped with dials so that the connection with the desired party is controlled entirely from the calling party's station.

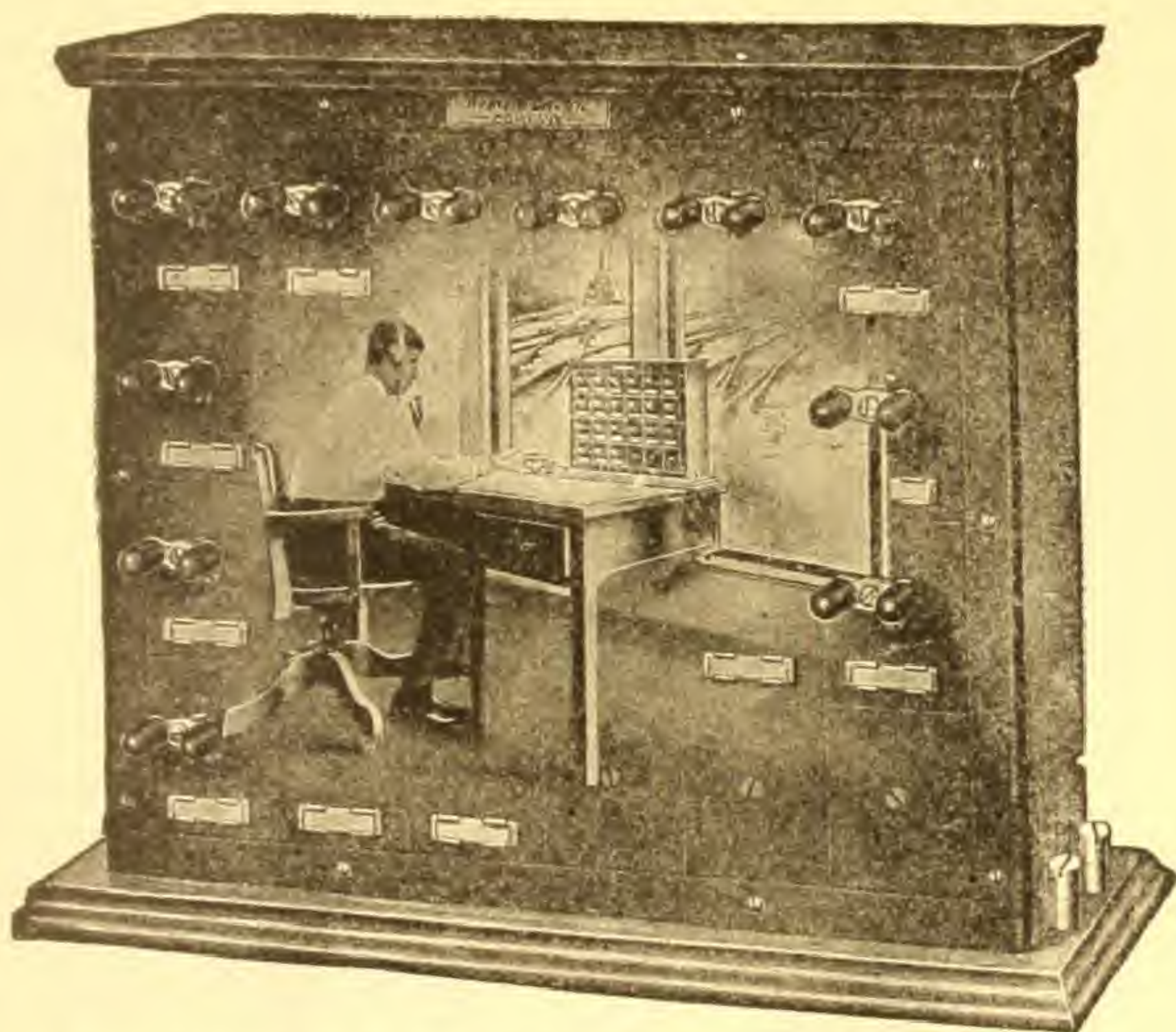
A minimum of time is required to obtain connection with the called party's line on the Private Automatic Exchange. The ringing of the called party's telephone is automatically controlled by the connectors on the switchboard, thereby eliminating any necessity for action on the part of the calling subscriber.

The conference call, watchman's service, code calling and credit system are special features of the P. A. X. which if required, are embodied in the P. A. X. itself.

Prices Quoted on Application



## RAILWAY TELEPHONE APPARATUS



Train Dispatcher's Equipment, Showing No. 50 Type Selector Key Case

### RAILWAY TELEPHONE TRAIN DISPATCHING EQUIPMENT

We have not attempted to list here detailed information with regard to railway telephone train dispatching material, but only wish to call attention to the fact that we are prepared to furnish complete equipment especially adapted to your own local needs.

As all installations are so highly special, in practically every case particular equipment is necessary to take care of the local service conditions. To secure the best results, it is necessary to have special telephones for use on lines exposed to high tension wires and special portable telephone sets for emergency use.

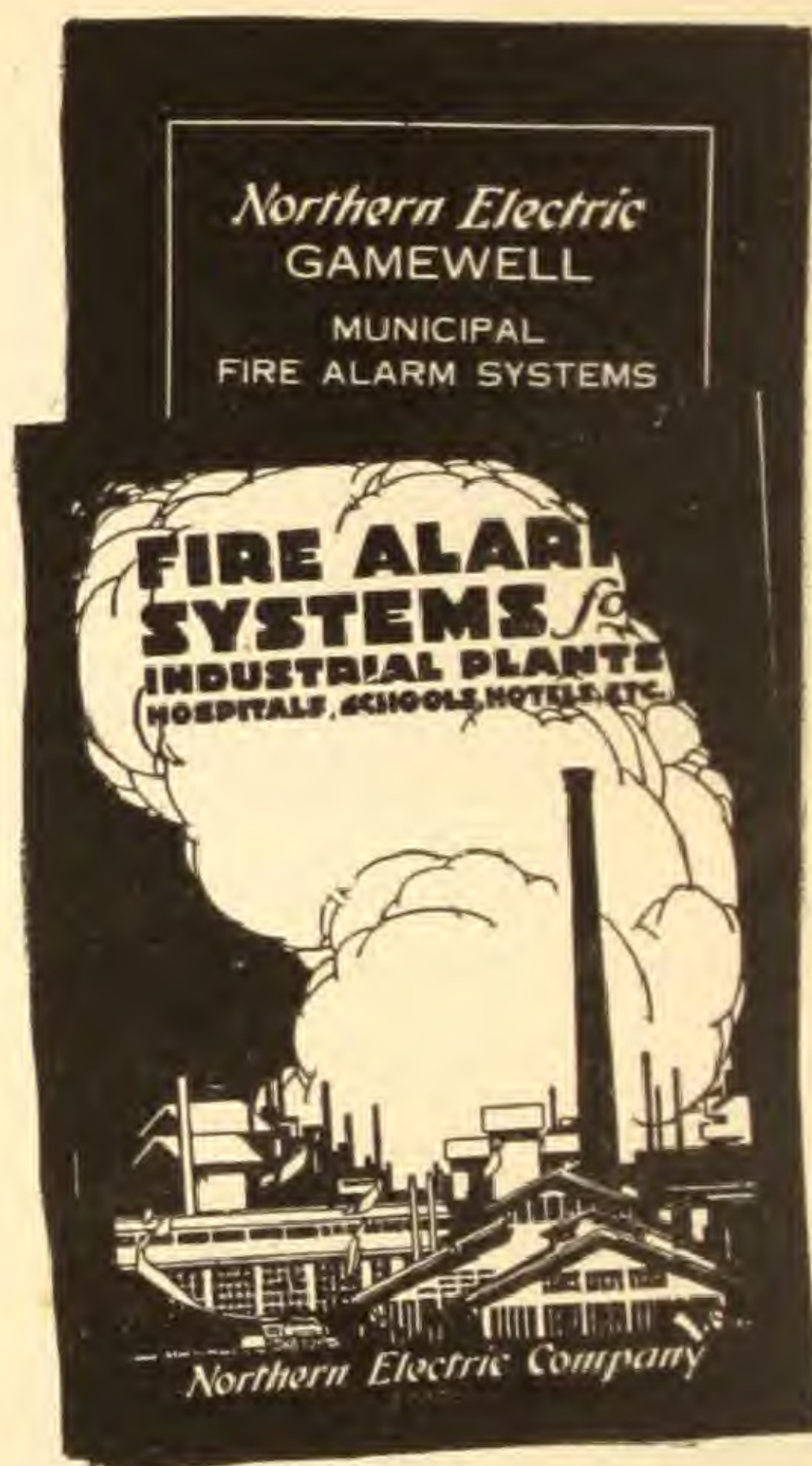
Detailed information and prices on request.



No. 1330F Portable Set



## FIRE ALARM AND POLICE SIGNALLING SYSTEMS



We manufacture and install complete fire alarm and police signalling systems for municipal and industrial purposes, and issue special publications covering them in detail.

These publications furnished upon application.



## MARINE FITTINGS



No. X104



No. X109



No. X105

No. X111



No. X80



No. X80



No. X116



No. X601

### FITTING PARTS

#### Pendants

No. X104 brass pendant is for deck fitting,  $\frac{3}{4}$ -inch I.P.S. thread. Will fit boxes Nos. 100 and 2710.

Trade No.	Mfrs. No.	Price Each
202148	X104	\$1.90

#### Angle Brass Brackets

For bulkhead fittings,  $\frac{3}{4}$ -inch iron pipe size. Will fit boxes Nos. 100 and 2710.

292149	X109	2.44
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#### Elbows

No. X105, 90 degrees brass elbow,  $\frac{3}{4}$ -inch iron pipe size.

202150	X105	.90
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No. 106, 45 degrees brass elbow,  $\frac{3}{4}$ -inch iron pipe size.

202151	X106	.90
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#### Nipples

Brass nipple,  $\frac{3}{4}$ -inch iron pipe size, 1-inch long.

202152	X111	.25
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#### Locking Attachments

Locking attachments are for government standard fittings. This attachment prevents the theft of lamps and globes. One key is supplied for every dozen locks. Spare keys provided upon application.

202153	X80	1.00
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#### Bulkhead Tubes

No. X116 steel bulkhead tube, 3 inches long,  $\frac{3}{4}$ -inch I.P.S.

202154	X116	1.65
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No. X116 $\frac{1}{2}$  steel bulkhead tube, 3 inches long, 1-inch I.P.S.

202155	X116 $\frac{1}{2}$	1.85
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#### Bushings

No. X601,  $\frac{3}{4}$ -inch lead bushing, for cables passing through non-watertight bulkheads.

202156	X601	....
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No. 601 $\frac{1}{2}$ , 1-inch lead bushing, for cables passing through non-watertight bulkheads.

202157	X601 $\frac{1}{2}$	....
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## MARINE FITTINGS



No. X411



No. X410



No. 3200



No. 2353



No. 1024



No. 85



No. 57

## DOUBLE PLUGS AND RECEPTACLES

Government standard, in double cast iron box. Suitable where exposed to mechanical injury.

Trade No.	Mfr. No.	Price Each
202168	X411	\$13.00

## SWITCHES AND RECEPTACLES

Government standard, in double cast iron box. Suitable where subject to mechanical injury.

Trade No.	Mfr. No.	Price Each
202169	X410	11.90

## MARINE SWITCHES, RECEPTACLES AND PLUGS

Trade No.	Mfr. No.	Price Each
202170	No. 3200	8.00

Trade No.	Mfr. No.	Price Each
202171	Nos. 2353 and 2354	7.50

No. 2353 in cast brass box,  $5\frac{1}{4} \times 2\frac{1}{4}$  inches.

No. 2354 is the same as No. 2353, without switch but with two receptacles and plugs.

Trade No.	Mfr. No.	Price Each
202172	2354	9.50

## OUTDOOR RECEPTACLES

No. 1024, Edison or bayonet base in water-tight iron box with flap cover. No. 1025 same, with self-closing spring cover.

Trade No.	Mfr. No.	Price Each
202173	1024	5.75
202174	1025	6.00

## BAYONET BASE SOCKETS

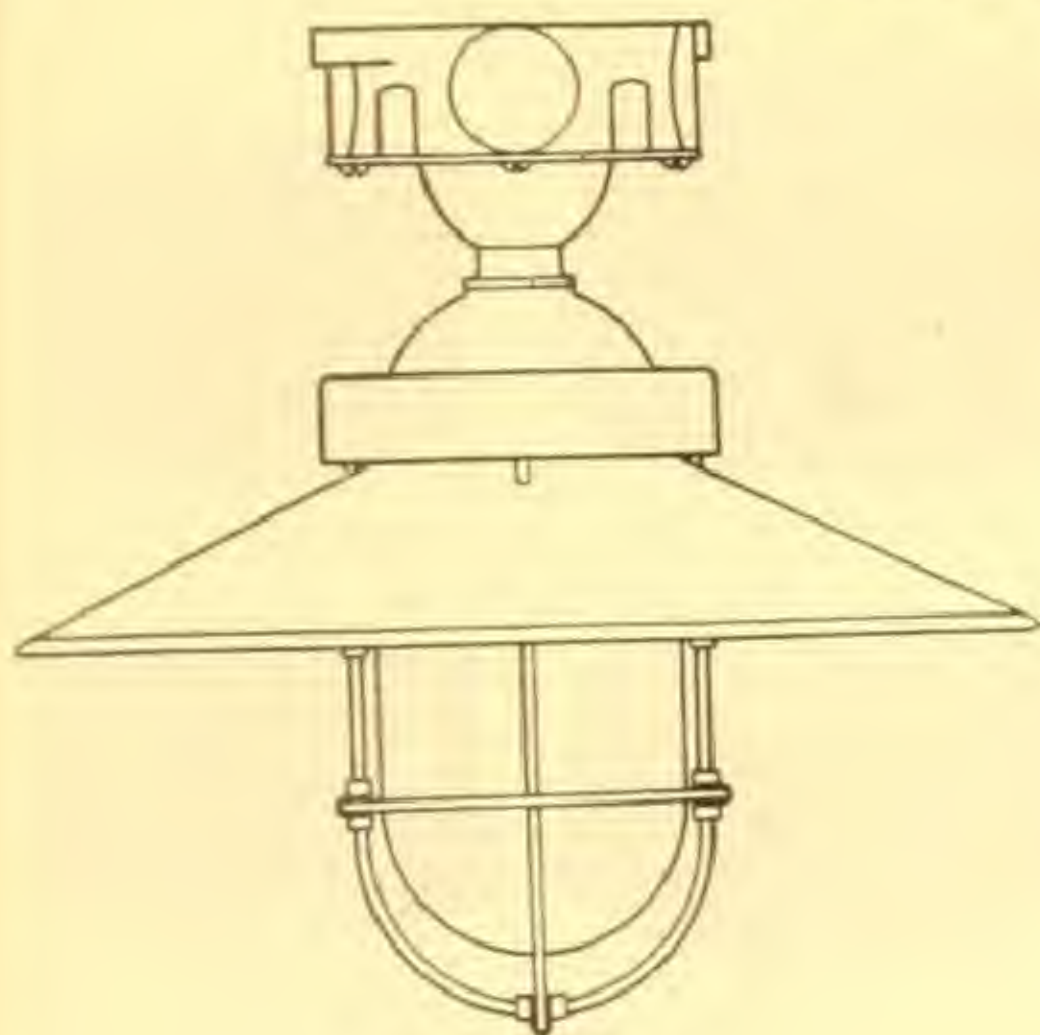
Trade No.	Mfr. No.	Price Each
202175	With molded base	85

## FUSE BASES

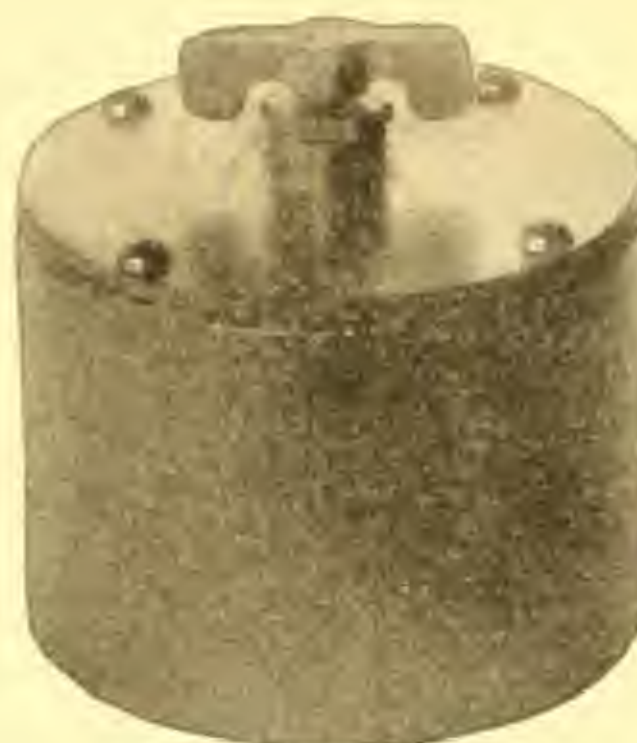
Trade No.	Mfr. No.	Price Each
202176	Diameter $3\frac{3}{4}$ inches; Height, $1\frac{3}{8}$ inches. D. P. O. 30 amps.	576
202177		576



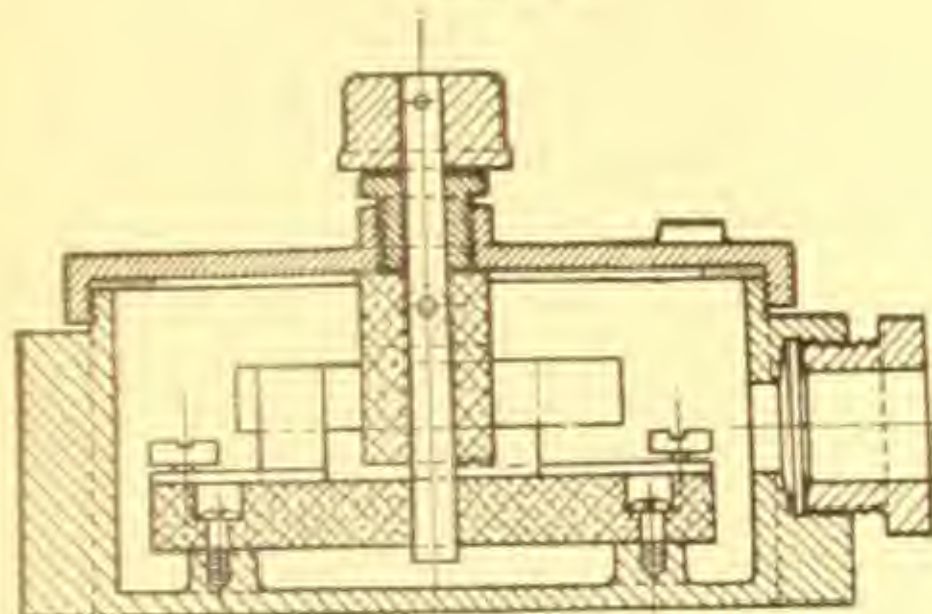
## MARINE FITTINGS



No. 1437



No. 2715



No. X510



No. 511

### DECK FITTINGS



No. 1602

Trade No.	Mfrs. No.	Description	Price Each
202188	1437	With 12-inch reflector attached.	\$8.00
202189	1438	Same with guard	8.75

### MARINE SNAP SWITCHES

202190	2715	Double-pole switch on molded insulation base, cast iron box	5.00
202191	2716	Same as No. 2715, single-pole.	5.00

### GOVERNMENT STANDARD MARINE SWITCHES

202192	X510	Switch in brass box with screw cover and lead gasket.	8.00
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### PLUGS AND RECEPTACLES

Nos. 511 and 512

Government standard two-wire plug and receptacle in brass box with screw cover and lead gasket.

202193	511	2-wire	8.15
202194	512	3-wire	9.00

No. 1602

Large receptacle and plug, in iron box six-inch diameter and brass flush; plate will take up to two-inch conduit.

202195	1602	Capacity from 75 to 250 amperes.	On application.
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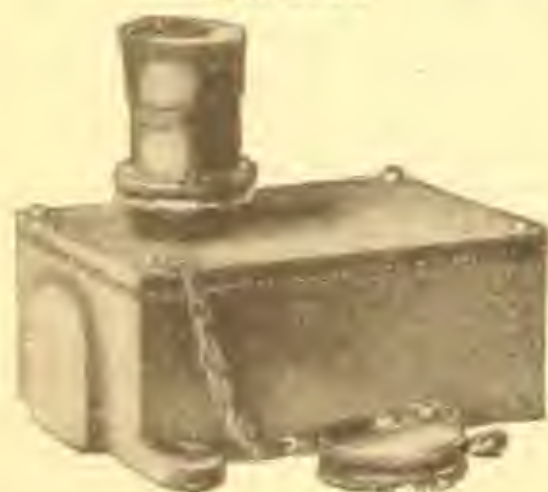
Nos. 2331 and 2332

Marine plugs and receptacles in cast brass box,  $2\frac{1}{4} \times 2\frac{3}{4}$  inches.

202196	2331	2-wire	6.50
202197	2332	3-wire	6.75



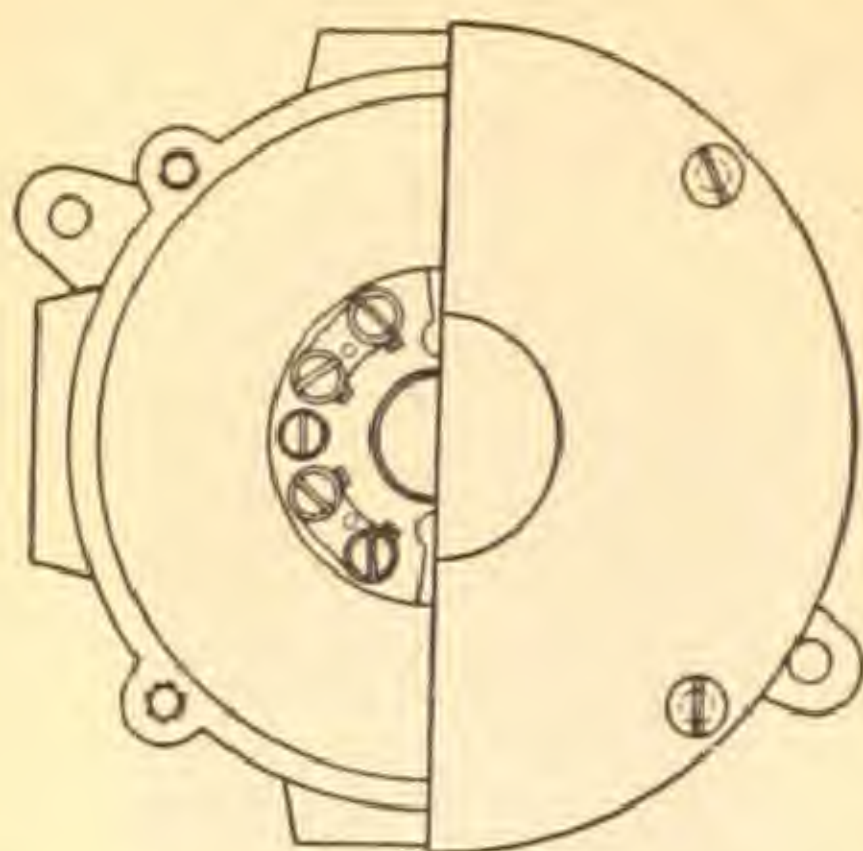
No. 2331



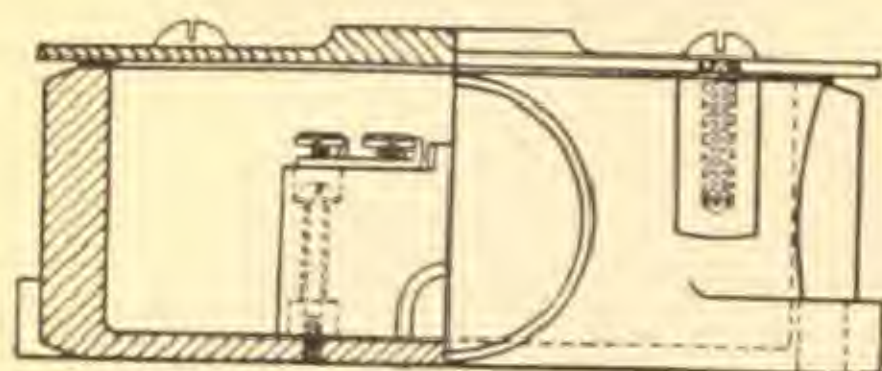
No. 2332



## MARINE FITTINGS



No. X100



Nos. X2413 and 2412



Nos. X2411 and 2410



No. X2401



No. 2710



No. X1400



No. 95

## CAST IRON BOXES

Nos. X100 to X108

Trade No.	Mfrs. No.	Description	Size, Inches Diam. Depth	Price Each
202208	X100	Box with screws	4 ...	\$0.63
202209	X180	Box with cover and gasket...	4 ...	1.00
202210	X187	Box with cover, gaskets and splice block	4 ...	1.75
202211	X108	Cover only	4 ...	.38

## No. X2401

202212	X2401	Box and cover	5 2 3/4	2.50
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## No. 2710

202213	2710	Box and cover	4 1/2 2 1/4	1.25
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## No. X1400

202214	X1400	Box and cover	5 ...	2.00
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## No. 95

202215	95	Box complete with cover and gasket	6 3	4.00
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## Nos. X2413 and 2412

202216	X2413	Box and cover takes 2.1-in. conduit	4 1/2 2 1/4	1.75
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202217	X2412	Same, as No. X2413 but takes 2 3/4-inch conduit	13 1/4	1.25
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## BRASS JUNCTION BOXES

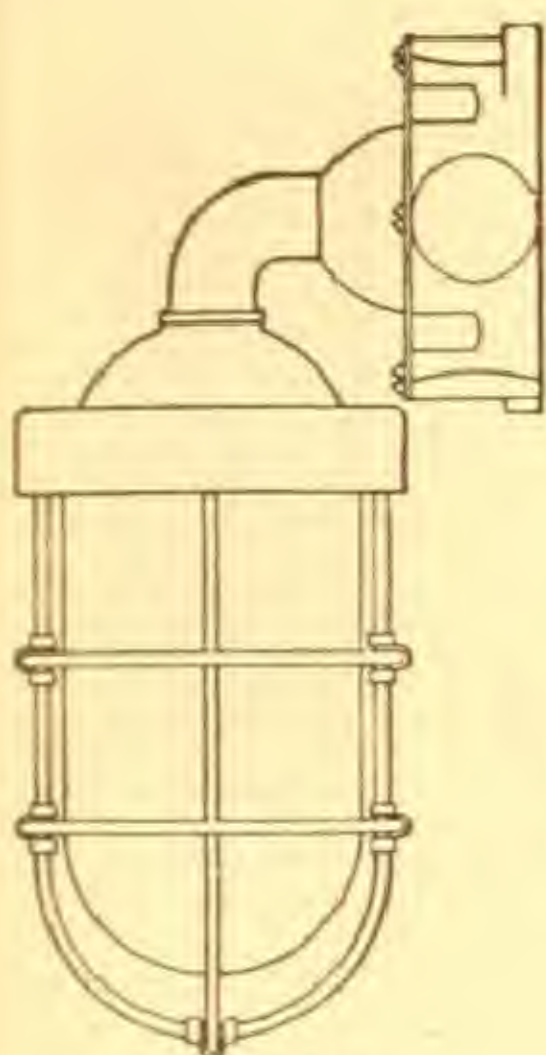
Nos. X2411 and 2410

Trade No.	Mfrs. No.	Description	Size, Inches Diam. Depth	Price Each
202218	X2411	Takes 1 1/4-inch conduit	3 3/4 2 3/4	\$4.55
202219	X2140	Takes 3/4-inch conduit	2 1/4	4.00

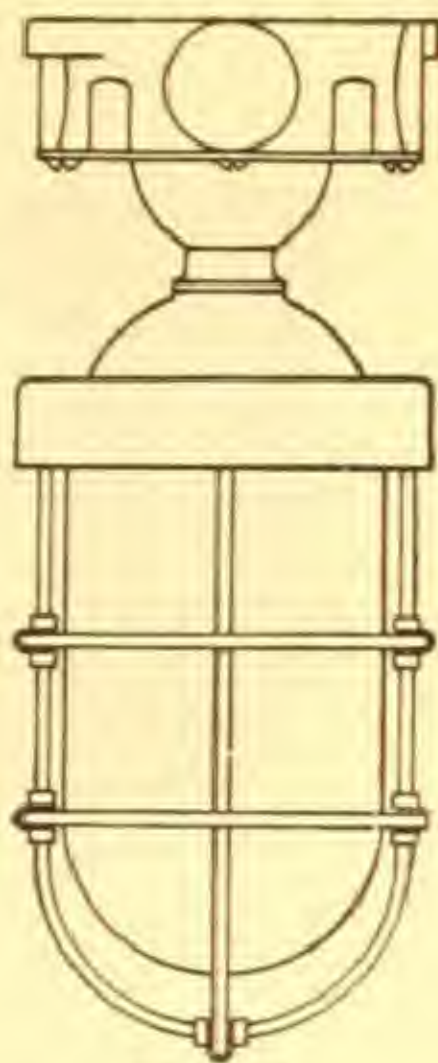


## MARINE FITTINGS

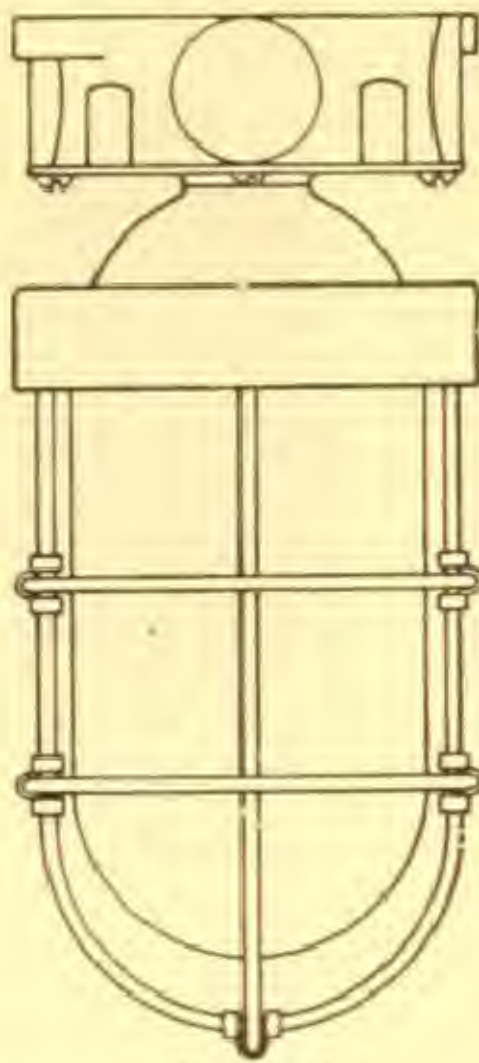
### GOVERNMENT STANDARD WATER-TIGHT FITTINGS



No. X193



No. X143



No. X183



No. X3-F

### BULKHEAD FITTINGS

Trade No.	Mfrs. No.	Description	Price Each
202230	X193	With flanged globe	\$8.00

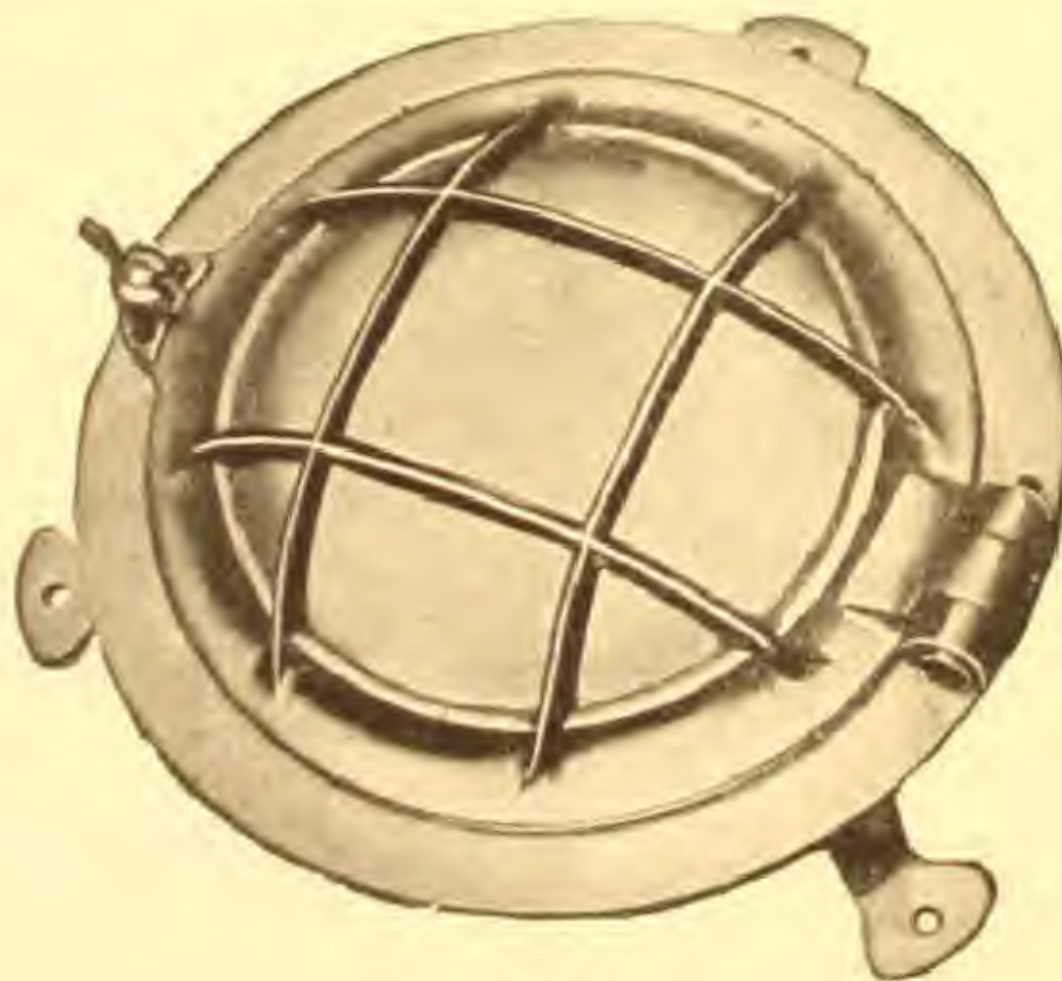
### DECK FITTINGS

Trade No.	Mfrs. No.	Description	Price Each
202231	X143	Brass deck fitting, with flanged globe	\$7.50
202232	X183	Brass deck fitting	6.90

### WATER-TIGHT FITTINGS

Trade No.	Mfrs. No.	Description	Price Each
202233	X3-F	Brass water-tight fitting	\$6.25

### OYSTER SHELL FITTINGS

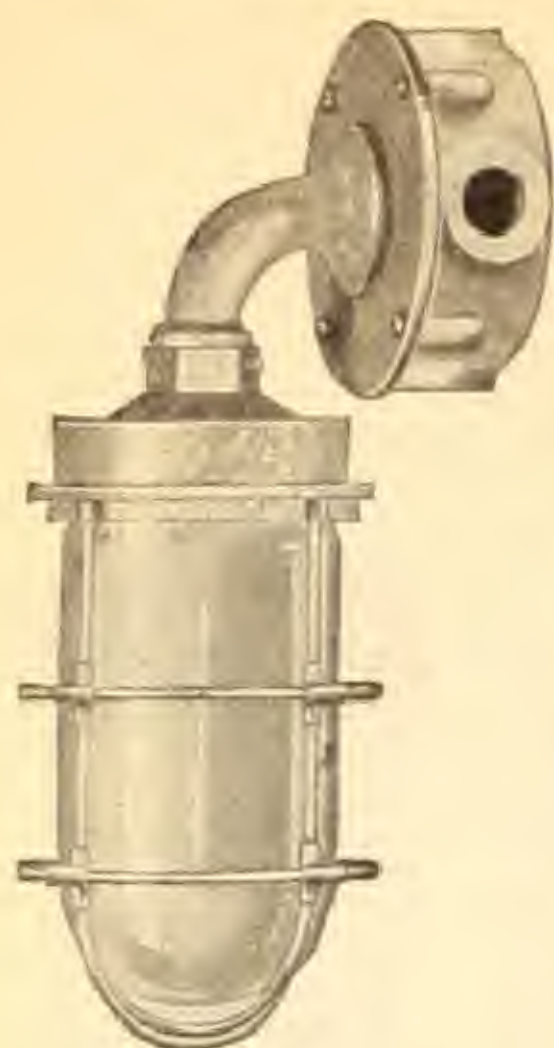


No. 406

Trade No.	Mfrs. No.	Description	Price Each
202234	407	Cast iron oyster shell, fitting heavily galvanized	\$9.50



## MARINE FITTINGS



No. 2459



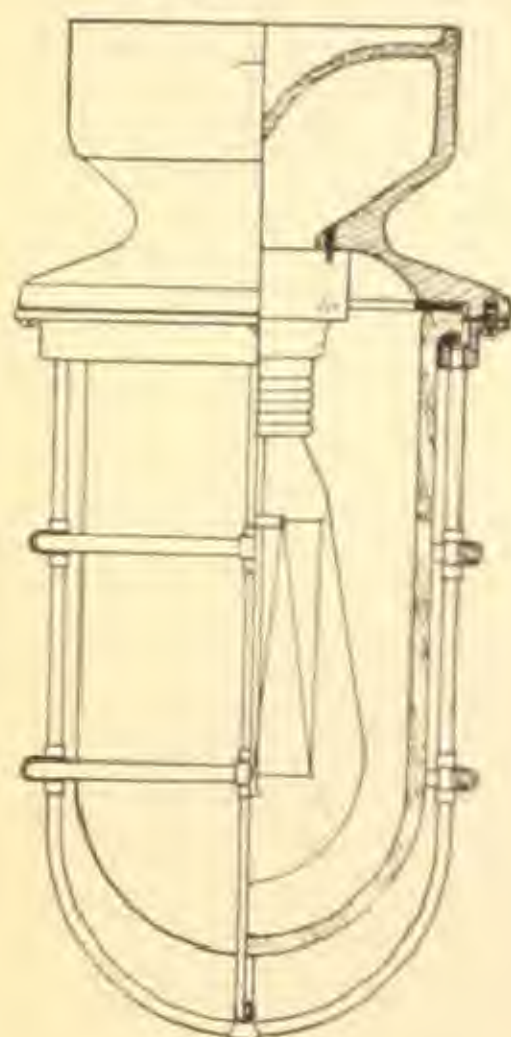
No. 102



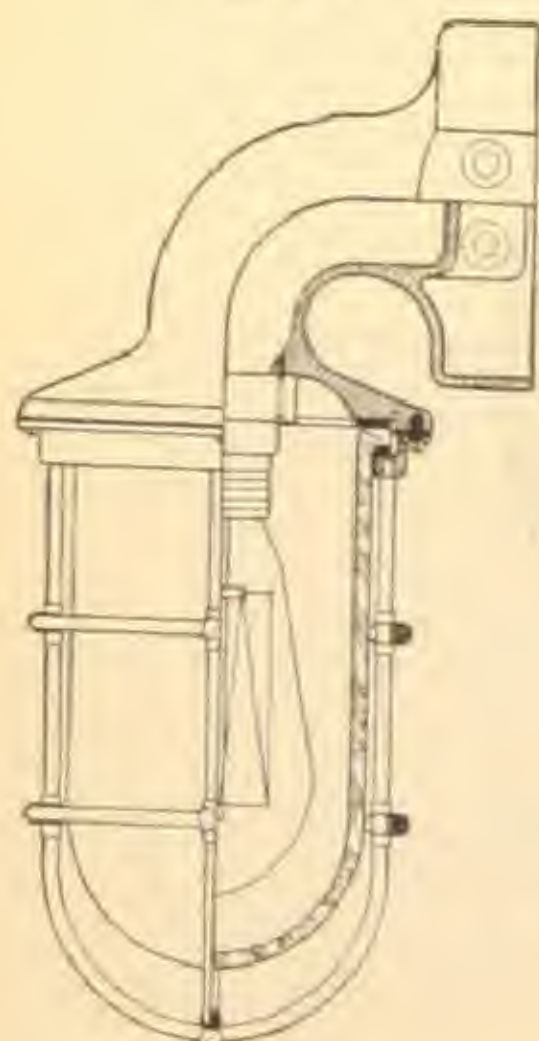
No. 2499



No. 2457



No. 630



No. 631

## SCREW GLOBE FITTINGS

Trade No.	Mfrs. No.	Description	Price Each
202245	2469	Keyless brass bulkhead fitting on iron box	\$6.25
202246	*2473	Same as No. 2469, with key	.....
202247	102	Brass keyless pendant, on iron box	5.00
202248	* 103	Same as No. 102 with key	.....
202249	2499	Brass guarded fitting, for use on standard iron box or on wood block	4.50
202250	2457	Keyless brass deck fitting, on iron box	5.00
202251	*2461	Same as No. 2457 with key	.....

Furnished in polished brass only when specified.

## OIL-TIGHT FITTINGS

## Deck Fittings

Trade No.	Mfrs. No.	Description	Price Each
202252	630	Brass flanged globe; guard secured by 4 set screws	\$8.00

## Bulkhead Fittings

202253	631	Brass flanged globe; guard secured by 4 set screws	8.00
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\*Prices for Key Type Fittings on application.



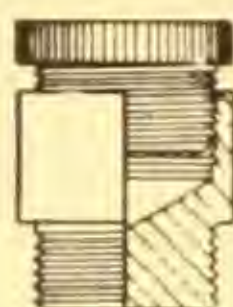
## MARINE FITTINGS



No. 112



No. 112 1/2



No. 113



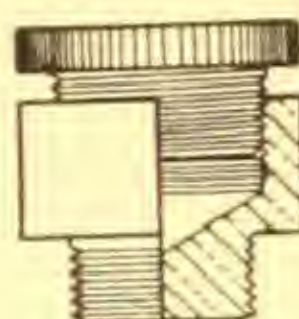
No. 113 1/2



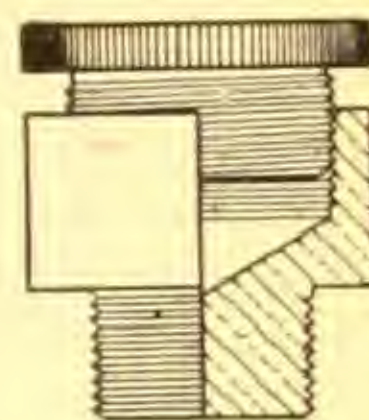
No. 114



No. 114 1/2



No. 115



No. 115 1/2

## WATER-TIGHT GLANDS

FOR OAKUM OR MARLIN STUFFING



Cable Strap

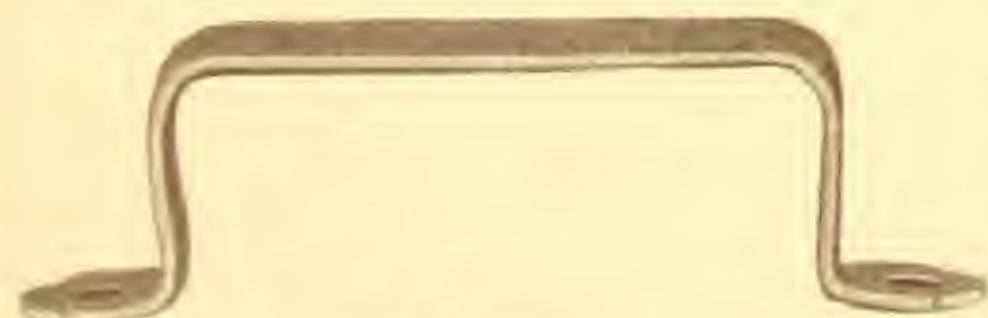


Cable Strap

Trade No.	Mfrs. No.	Iron Pipe Size Inches	DRILLING CAPACITY INCHES		Price Each
			Top	Bottom	
202264	X112	1/2	.75	.54	\$0.75
202265	X112 1/2	3/4	.3125	.3125	.42
202266	X113	3/4	.75	.75	.75
202267	X113 1/2	3/8	.50	.50	.25
202268	X114	1/4	.3125	.3125	.20
202269	X114 1/2	3/4	.75	.75	.32
202270	X115	3/4	.90	.75	1.90
202271	X115 1/2	1	1.25	1.0	2.50

No. 112 gland is generally drilled for No. 14.2 conduit L. C. and W. B. cables. All other glands will be furnished undrilled unless otherwise specified.

## BRASS CABLE STRAPS



Cable Strap

Trade No.	For Cable Nos.	Price Each
202272	X1 to 3	\$0.06
202273	4 to 7	.08

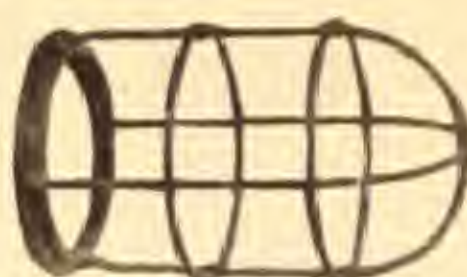
Clips are punched with 3/8-inch hole in each end. They will be supplied with 5/8-inch hole under special conditions.



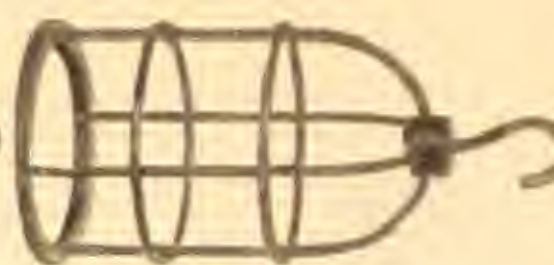
## MARINE FITTINGS



No. X2004



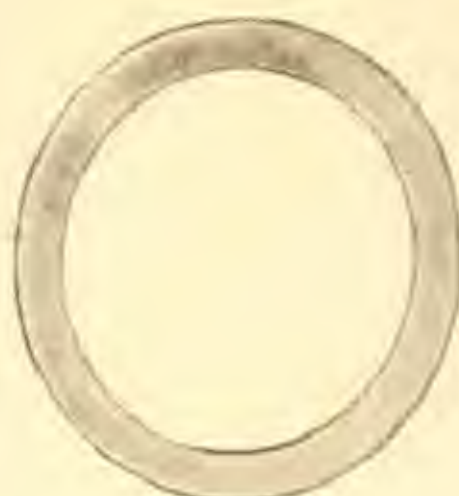
No. 2006



No. 2015



No. 2016



No. X2009



No. 3000



No. X2000



No. X1902



No. 3002



No. X577



No. X4131

## BRASS GUARDS

Trade No.	Mfrs. No.	Description	Price Each
202284	X2004	For government standard fittings	\$2.00
202285	2006	For screw globe fittings	2.00
202286	2015	For No. 300 hand portable	2.25
202287	2016	For No. 2419 portable	2.25

## GASKETS

Trade No.	Mfrs. No.	Description	Price Each
202288	X2009	Soft rubber gaskets for Nos. 100 and 2710 boxes	\$0.20
202289	X2002	Wide gasket, for flanged globe fittings	.25
202290	X2001	Narrow gasket, for flanged globe fittings	.20
202291	33	For all screw globe fittings	.15
202292	34	For No. 1400 box	.30
202293	X 35	Lead gasket, for Nos. 510 and 511 boxes	.30

## PLUGS

Trade No.	Mfrs. No.	Description	Price Each
202294	3000	Navy standard plug, 2-wire	\$2.50
202295	3001	Navy standard plug, 3-wire	2.75
202296	X2000	Government standard plug, 2-wire	2.50
202297	X1900	Government standard plug, 3-wire	2.75

## TIPS

Trade No.	Mfrs. No.	Description	Price Each
202298	X1902	Spare tip for 2-wire Government standard plug	\$1.25
202299	X1903	Spare tip for 3-wire Government standard plug	1.50
202300	3002	Navy standard tip, 2-wire	1.25
202301	3003	Navy standard tip, 3-wire	1.50

## NO-SPLICE BLOCKS

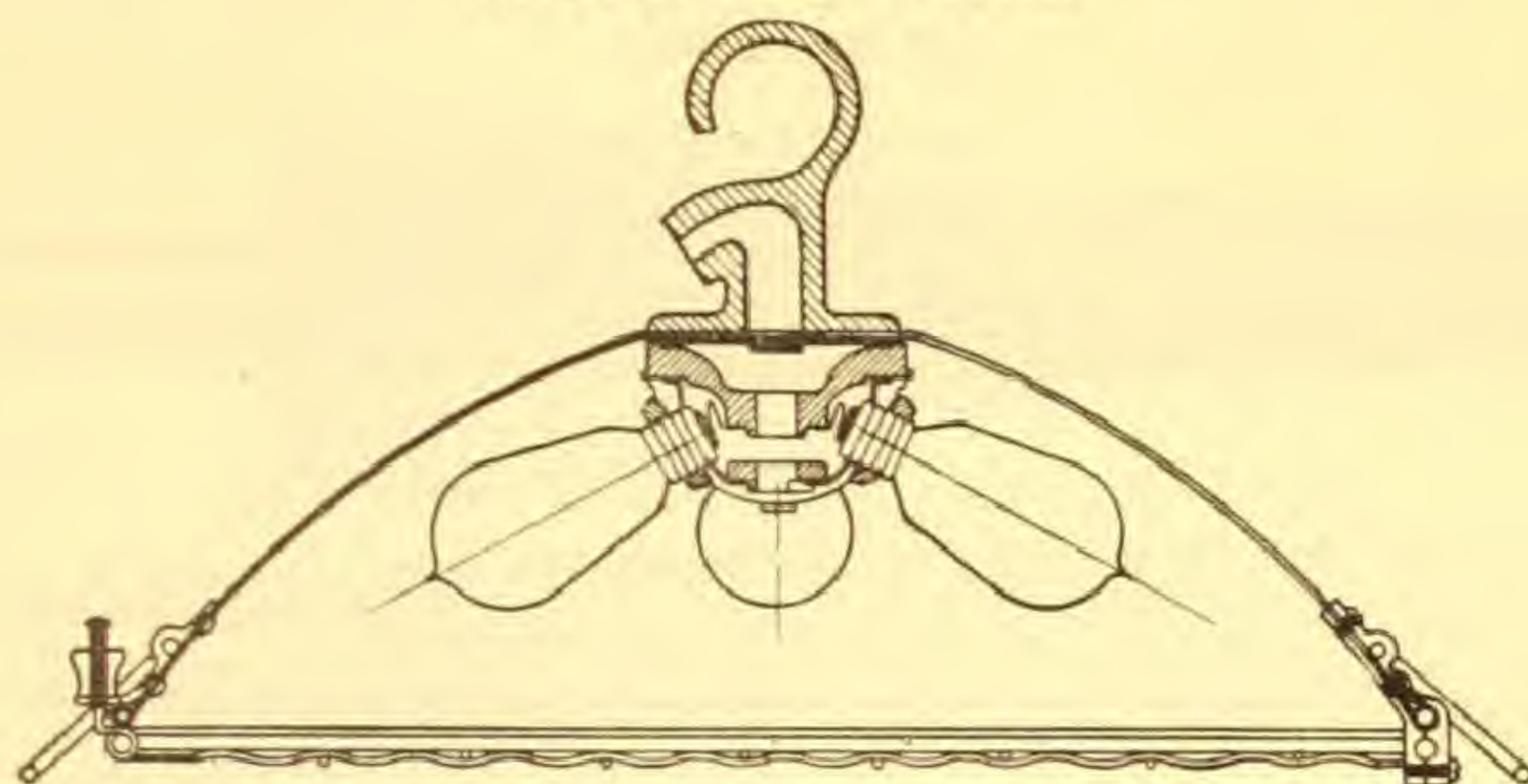
No. X577, 1 $\frac{3}{4}$ x1 inch;	No. 593, 2 $\frac{3}{8}$ x $\frac{1}{8}$ inches.
202302	577
202303	593

## MARINE SOCKETS

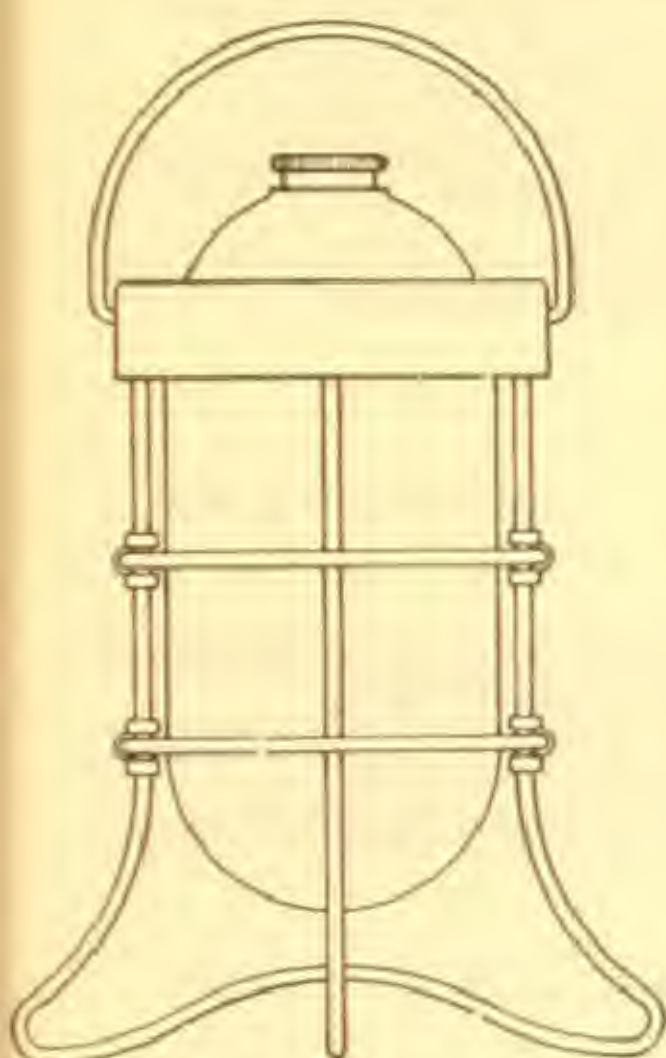
No. X4131, 1 $\frac{3}{4}$ x1 $\frac{1}{2}$ inches high;	No. 4130 same with key.
202304	X4131
202305	4130



## MARINE FITTINGS



No. 507



No. 301



No. X608



Screw Globe



No. 2308

### CARGO CLUSTERS

Trade No.	Mfrs. No.	Description	Price Each
202316	507	16 inch, 4, 5, or 6 light steel cargo cluster	

### ENGINEERS' BRASS HAND LAMPS

No. 301

202317	301	Polished brass only when specified.	9.50
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### WELL GLOBES

No. X608

For government standard and oil tank type water-tight fittings and Nos. 604 and 606 cabin fittings.

202318	X608		1.00
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### SCREW GLOBES

202319		For water-tight fittings.	.80
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### MARINE SWITCHES

No. 2308

202320	2308	Double-pole, in brass box, 4 1/4 x 2 1/2 inches	6.80
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No. 3100

202321	3100	Double-pole, in brass box.	6.80
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No. 3100



## RUBBER INSULATED CABLES

FOR MARINE WORK

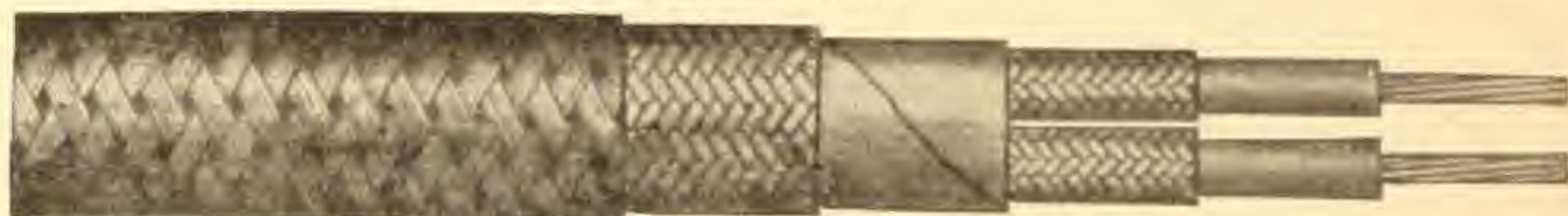
CAB TIRE CABLE



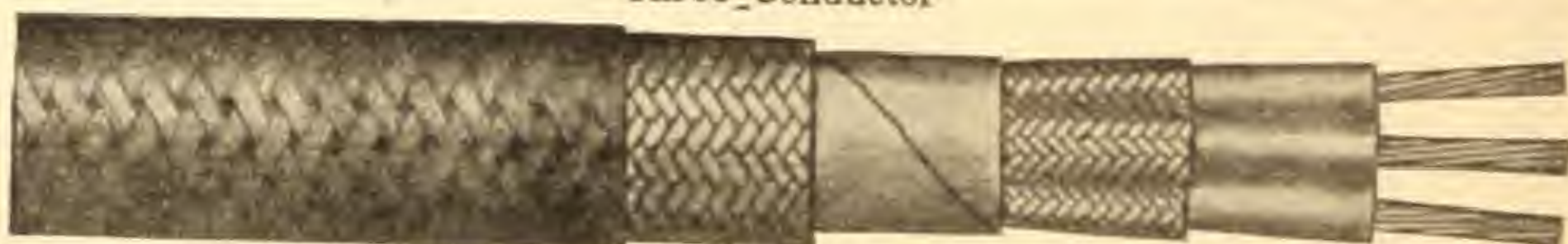
RUBBER INSULATED PLAIN LEAD COVERED CABLE



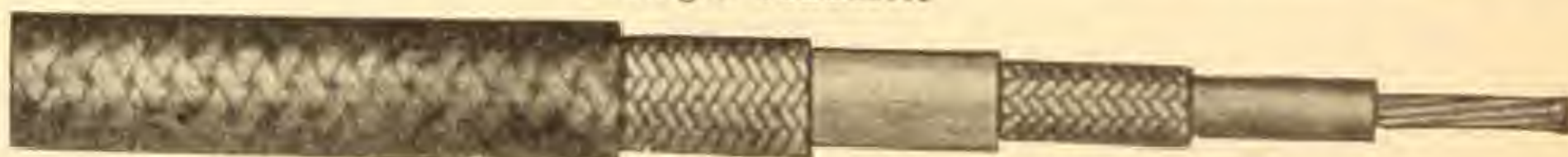
RUBBER INSULATED WEATHERPROOF WIRE BRAID ARMORED CABLE  
Two Conductor



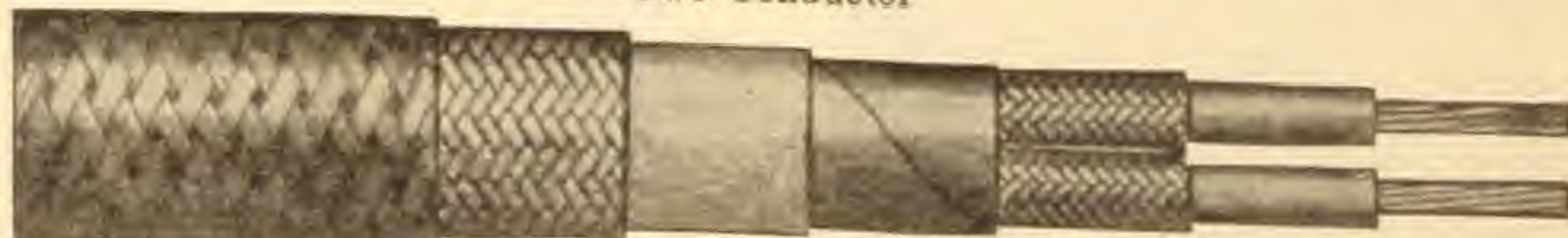
RUBBER INSULATED WEATHERPROOF WIRE BRAID ARMORED CABLE  
Three Conductor



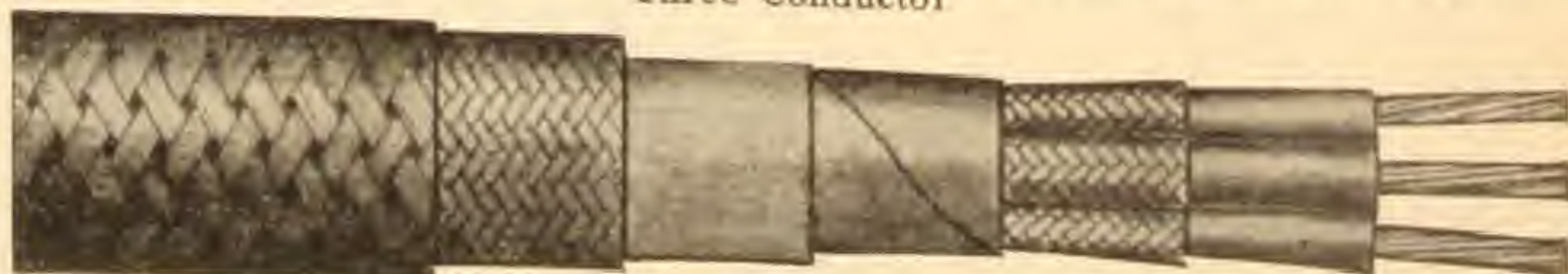
RUBBER INSULATED LEAD COVERED WIRE BRAID ARMORED CABLE  
Single Conductor



RUBBER INSULATED LEAD COVERED WIRE BRAID ARMORED CABLE  
Two Conductor

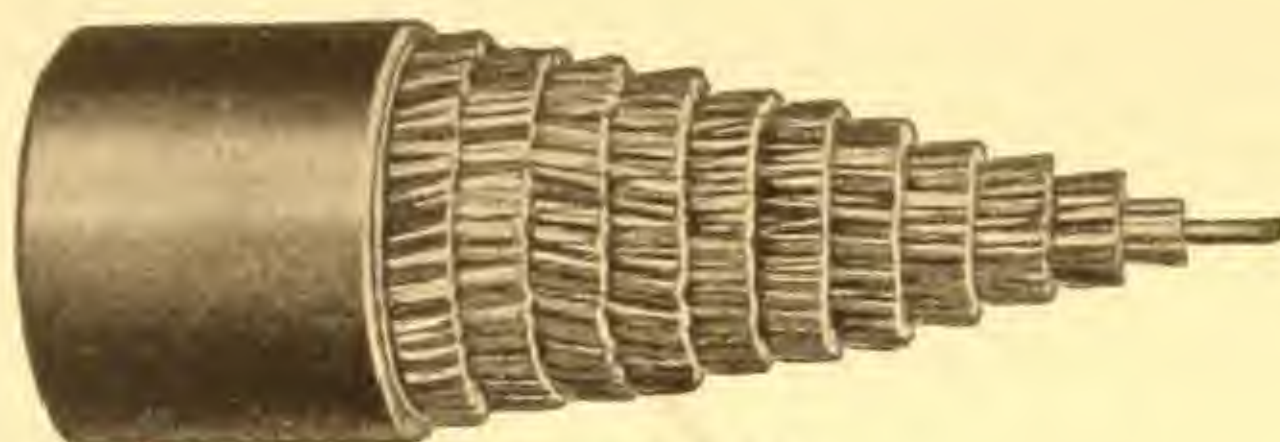


RUBBER INSULATED LEAD COVERED WIRE BRAID ARMORED CABLE  
Three Conductor





## TELEPHONE AND TELEGRAPH CABLES



Telegraph Cable



Telephone Cable

### LEAD COVERED PAPER INSULATED TELEPHONE CABLES

Paper Insulated lead covered telephone cables are everywhere superseding the unsightly and cumbersome network of the old open-wire construction. Their advantages, in congested areas and for long distance transmission between cities, have long been established.

In these cables each telephone circuit consists of a pair of copper wires individually insulated by a wrapping of paper. The twisted pairs are stranded together to form a core which is protected from damp and mechanical injury by a lead sheath, containing a small percentage of antimony or tin. When the cable is to be laid under water or in the ground, additional protection in the form of steel tape or wire armor is applied over the sheath.

Cables connecting subscribers' telephones to exchanges are generally made with copper conductors No. 22 A. W. G. although wire as small as No. 24 is sometimes used. Standard sizes vary from five pairs to 1200 pairs. Conductors in toll line cables are usually No. 19 A. W. G. Our range of standard sizes of this latter type of cable varies from five pairs to 450 pairs.

We make many specialized forms of paper insulated telephone cable; among these may be mentioned cables with large sized conductors for long distance underground lines, composite cables containing conductors of two or more gauges of wire and quadded cables designed to give three telephone circuits for every four conductors in the cable.

### RUBBER INSULATED LEAD COVERED CABLES

Our telegraph cable is in general use throughout the country. We have manufactured large quantities of cables with the outside protecting covering consisting of a weatherproof cotton braid and also with an outside lead sheath similar to that used on Telephone cable. Both types have met with a large measure of success.

The conductors, which are generally of No. 16 or No. 14 A. W. G. are tinned and insulated with a superior grade of rubber compound and stranded up with jute fillers to form a core over which the outer covering is applied.

We also make paper insulated telegraph cable very similar in general design to telephone cable, except that the conductors are more heavily insulated with a double wrapping of paper to allow for the higher voltage used on telegraph work.

Prices Quoted upon Application



## TELEPHONE AND TELEGRAPH WIRES

The conductors of all these wires are thoroughly tinned. The insulation is of a high quality rubber compound and varies in thickness according to the size and requirements of the different wires; over this is placed a weatherproof braid; or when wanted for inside use a glazed cotton braid of any standard color combination.

## STYLE B COPPER OUTSIDE WIRE



Two twisted conductors of hard-drawn copper, each rubber insulated, braided and saturated, one conductor having a raised thread for tracing purposes. Single conductor can be supplied when specified.

Size A.W.G.	Diam. Over Rubber Inches	Approx. Wt., Lbs. per 1000 Ft. (Tw. Pair)	Size A.W.G.	Diam. Over Rubber Inches	Approx. Wt., Lbs. per 1000 Ft. (Tw. Pair)
18	$\frac{1}{4}$	42	16	$\frac{1}{2}$	47
*18	$\frac{3}{8}$	36	14	$\frac{1}{2}$	75
16	$\frac{5}{8}$	60	*14	$\frac{3}{4}$	68
*16	$\frac{7}{8}$	53	12	$\frac{1}{2}$	89

## STYLE B COPPER STEEL OUTSIDE WIRE

The standard wire of this type is No. 17 A. W. G. copper steel insulated to  $\frac{1}{4}$ -inch diameter over rubber, although sometimes called for in  $\frac{3}{8}$ -inch diameter insulation.

Size A.W.G.	Diameter Inches	Wt., Lbs. per 1000 Ft.	Size A.W.G.	Diameter Inches	Wt., Lbs. per 1000 Ft.
*17	$\frac{7}{8}$	39	17	$\frac{1}{2}$	42

## STYLE G COPPER BRIDLE WIRE

Of similar makeup to Style B copper wire except that the conductors are of soft drawn copper. Generally called for in No. 18 A. W. G. insulated to  $\frac{1}{4}$ -inch diameter over rubber.

## STYLE C INTERIOR WIRE



Conductors of soft-drawn copper, rubber insulated and braided with dry glazed cotton. This wire is furnished in either 1, 2, 3 or 4 conductor. Olive green braid is most commonly used, but various colors can be furnished. A tracer thread is used in all but one conductor. Standard stock sizes are:

Size A.W.G.	Diam. Over Rubber Inches	Approx. Wt., Lbs. per 1000 Ft. (Tw. Pair)	Size A.W.G.	Diam. Over Rubber Inches	Approx. Wt., Lbs. per 1000 Ft. (Tw. Pair)
20	$\frac{3}{32}$	19	18	$\frac{1}{8}$	27
19	$\frac{1}{16}$	21			

\*Carried in stock.

Prices Quoted upon Application



## TELEPHONE AND TELEGRAPH WIRES

### STYLE A POTHEAD WIRES



The insulation of this wire is of specially high quality, suitable to withstand the effects of the hot compound without a protecting braid. As a distinguishing mark the insulation of one conductor of the twisted pair is made with a raised tracer.

Size A. W. G.	Diam. Over Rubber Inches	Approx. Wt., Lbs. per 1000 Ft. (Tw. Pair)	Size A. W. G.	Diam. Over Rubber Inches	Approx. Wt., Lbs. per 1000 Ft. (Tw. Pair)
*22	$\frac{5}{64}$	11	*16	$\frac{9}{64}$	37
*19	$\frac{3}{32}$	18	14	$\frac{5}{32}$	51
18	$\frac{7}{64}$	23	13	$\frac{5}{32}$	56

\*Carried in stock.

### STYLE D LEAD COVERED WIRE



Two twisted conductors, each conductor plain insulation, twisted with jute and covered with a lead sheath  $\frac{1}{8}$  inch thick. Usually supplied in No. 16 A.W.G. insulated to  $\frac{9}{64}$ -inch diameter over rubber, or in No. 14 A.W.G. insulated to  $\frac{5}{32}$  inch.

### DISTRIBUTING FRAME OR JUMPER WIRE

#### STYLE F

#### Rubber Insulated

The tinned copper conductors of this jumper wire are rubber insulated and braided, the braid being saturated in a flameproof compound. Usually furnished in No. 22 A.W.G. insulated to .078-inch diameter or in No. 20 A.W.G. insulated to .085 inch. Supplied in one, two, three or four conductor.

#### Color Scheme

Conductor	No. 22 A. W. G.	No. 20 A. W. G.
A	White	Brown
B	Black	Black (Brown Marker)
C	Red	Red (Brown Marker)
D	Green	Green (Brown Marker)

Single conductor is made up of A in the above table.

Two conductor, Right hand twist—A and B.

Three conductor, Right hand twist—A, B and C.

Four conductor, Right hand twist—A, C, B and D.

#### STYLE H

#### Enameled and Silk Insulated

This jumper wire may be used instead of Style F and is particularly suitable for use in humid localities. The tinned copper conductor is enameled, insulated with servings of silk and impregnated. The wire is then covered with a cotton braid saturated in flameproof compound. Supplied in 1, 2, 3 or 4 conductor. Furnished in No. 22 A.W.G., outside diameter, .080 inches; and No. 20 A.W.G., outside diameter .086 inches.

#### Color Scheme

Conductor	No. 22 A. W. G.	No. 20 A. W. G.
A	White	Brown
B	Black	Black (Brown Marker)
C	Red	Red (Brown Marker)
D	Green	Green (Brown Marker)

Single conductor is made up of A in above table.

Two conductor, Right hand twist—A and B.

Three conductor, Right hand twist—A, B and C.

Four conductor, Right hand twist—A, C, B and D.

### SINGLE SUB-STATION GROUND WIRE



The standard wire for this use is No. 18 A.W.G. tinned copper, rubber insulated to  $\frac{7}{64}$ -inch diameter and covered with a polished cotton braid. It is also frequently called for in Nos. 16 and 14 A.W.G.

### SWITCHBOARD WIRE

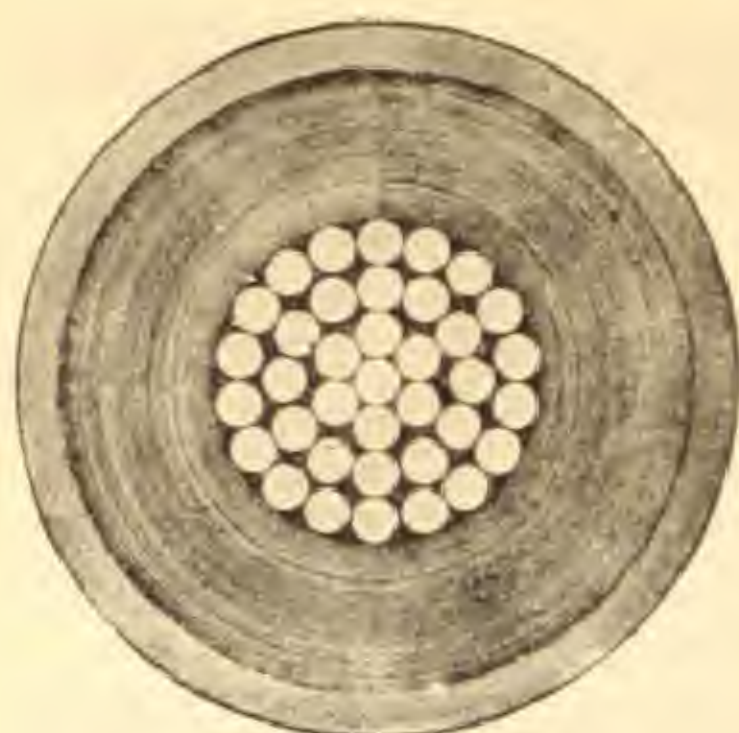


Switchboard wire consists of tinned copper wire, insulated with two silk and one cotton lappings, the winds being applied in reverse directions and thoroughly saturated with beeswax compound. It is furnished in single, double or triple conductor, usually in Nos. 22 and 19 A.W.G.

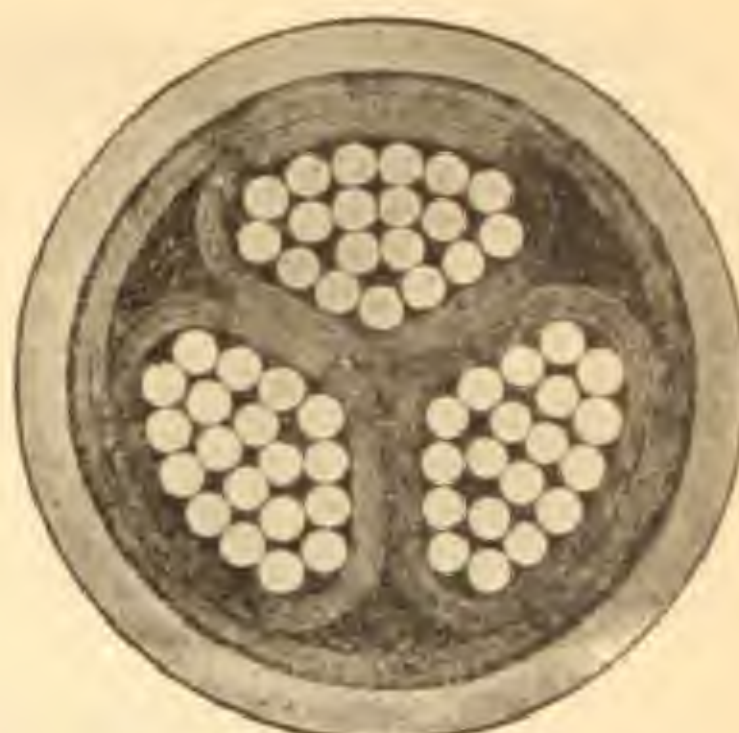
Prices Quoted Upon Application



## POWER CABLES



500000 C. M.  
Single Conductor—13200 Volts  
Lead Covered



750000 C. M.—Sector  
Triple Conductor—600 Volts  
Lead Covered

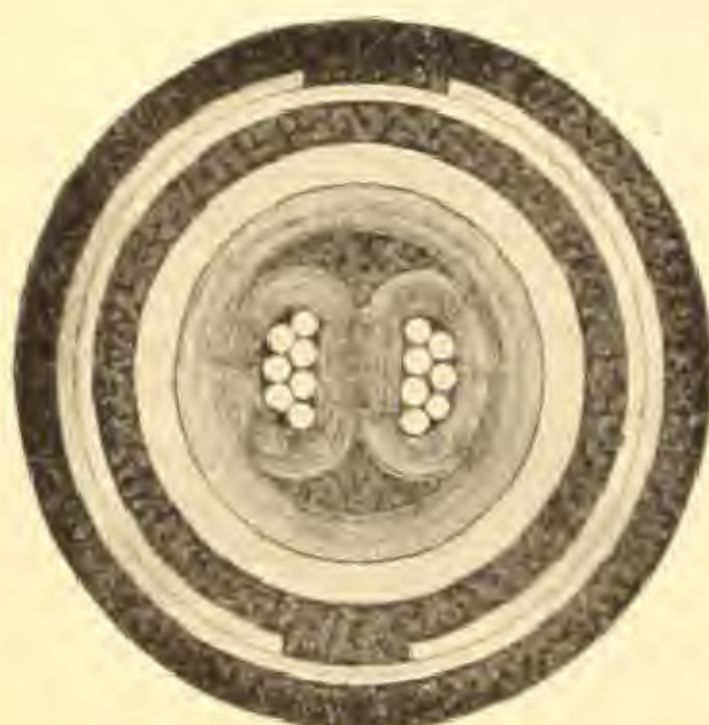
## PAPER INSULATED POWER CABLES

The first Paper Insulated Lead Covered Power Cable made in Canada was manufactured by this company in Montreal.

Cables of this type are very largely used for power distribution. They can be manufactured with conductors covering a large range of sizes and for all the voltages used in ordinary underground transmission work. They are made up with single or multiple conductors. Multiple conductor cables are made with conductors of round cross-section or sector as desired.

The conductors are formed of strands of copper and are insulated with impregnated paper to the requisite thickness for the particular voltage for which the cable is designed. The outer covering consists of a lead sheath. When cables are to be laid in water or in the ground, additional protection is provided in the form of steel wire or steel tape armor over the sheath.

We have a thoroughly well equipped Installation Department and are prepared to take contracts for the supply and installation of cable and accessories required for underground cable systems.



No. 6 B. & S.—Sector  
Double Conductor—6600 Volts  
Lead Covered—Steel  
Tape Armored

## VARNISHED FABRIC INSULATED CABLES



No. 2 A. W. G.  
Single Conductor—3300 Volts  
Braid Covered

Illustration Approximately Full Size

Cables insulated with varnished fabric are extensively used for power-house work. Like Paper Insulated Cables, they are made up with single conductor or multiple conductor as required, but unlike the Paper Insulated Cable they may be used without a lead sheath.

Standard methods of finishing consist of lead sheath, weatherproof braid or slow burning braid. The copper conductors are insulated with successive layers of the varnished fabric, which are separated from each other by a lubricating compound. This compound prevents the absorption of moisture by the cable and also allows the cable to be bent without cracking the insulation.

Prices and Full Specifications Quoted upon Application



## WEATHERPROOF COPPER WIRES



No. 4 Solid—Triple Braid

### TRIPLE BRAID—SOLID CONDUCTOR

Triple braid weatherproof, as the name implies, consists of a conductor covered by three braids and saturated with a weatherproof compound. The compound used is black and will not drip at ordinary temperatures. The outer braid is finished with a smoothly polished wax. Conductors may be either solid or stranded.

Our wire is in exact accordance with the requirements of the 1920 National Electrical Code and is approved by the National Board of Fire Underwriters. (Type W.P.)

Size A.W.G.	Approx. Wt., Lbs.		Approx. Diam. over Insulation Inches	PUT UP FOR SHIPMENT			
	Per 1000 Ft.	Per Mile		REELS Approx. Length, Ft.	Approx. Wt., Lbs.	COILS Approx. Length, Ft.	Approx. Wt., Lbs.
0000	767	4050	.760	1305	1000	.....	.....
000	629	3320	.710	1590	1000	.....	.....
00	502	2650	.650	1995	1000	.....	.....
0	407	2150	.590	2460	1000	.....	.....
1	316	1670	.540	3165	1000	.....	.....
2	260	1370	.480	.....	.....	962	250
3	199	1050	.430	.....	.....	1256	250
4	164	865	.390	.....	.....	1525	250
5	135	710	.350	.....	.....	1852	250
6	112	590	.320	.....	.....	1340	150
8	75	395	.275	.....	.....	2000	150
9	62	325	.255	.....	.....	2420	150
10	53	280	.240	.....	.....	2830	150
12	35	185	.210	.....	.....	1430	50
14	25	130	.185	.....	.....	2000	50
16	20	105	.170	.....	.....	1250	25
18	16	85	.160	.....	.....	937	15

### DOUBLE BRAID—SOLID CONDUCTOR

Double braid weatherproof is exactly similar in construction to triple braid weatherproof except that the covering consists of two braids only. This type is often used under favorable conditions when economy is essential. It is not approved by the National Board of Fire Underwriters.

Size A.W.G.	Approx. Wt., Lbs.		Approx. Diam. over Insulation Inches	PUT UP FOR SHIPMENT			
	Per 1000 Ft.	Per Mile		REELS Approx. Length, Ft.	Approx. Wt., Lbs.	COILS Approx. Length, Ft.	Approx. Wt., Lbs.
0000	723	3817	.700	1385	1000	.....	.....
000	587	3098	.640	1705	1000	.....	.....
00	467	2467	.580	2142	1000	.....	.....
0	377	1989	.520	2658	1000	.....	.....
1	294	1553	.460	3402	1000	.....	.....
2	239	1264	.420	.....	.....	1046	250
3	185	977	.380	.....	.....	1350	250
4	151	795	.340	.....	.....	1655	250
5	122	646	.310	.....	.....	2005	250
6	100	529	.290	.....	.....	1500	150
8	66	349	.250	.....	.....	2270	150
9	54	283	.230	.....	.....	2780	150
10	46	241	.210	.....	.....	3260	150
12	30	158	.185	.....	.....	1665	50
14	21	107	.165	.....	.....	2500	50
16	15	83	.150	.....	.....	1560	25
18	12	64	.140	.....	.....	1250	15

Prices Quoted upon Application



## WEATHERPROOF COPPER WIRES

### TRIPLE BRAID—STRANDED CONDUCTOR

Triple Braid Weatherproof, as the name implies, consists of a conductor covered by three braids and saturated with a weatherproof compound. The compound used is black and will not drip at ordinary temperatures. The outer braid is finished with a smoothly polished wax. Conductors may be either solid or stranded.

Our wire is in exact accordance with the requirements of the 1920 National Electrical Code and is approved by the National Board of Fire Underwriters. (Type W.P.).

Size Circular Mils A.W.G.	APPROX. WT. Per 1000 Ft.	LBS. Per Mile	Approx. Diam. over Insulation Inches	CONCENTRIC STRANDED No. of Wires	Diam. Each Inches	PUT UP FOR SHIPMENT		Approx. Ship. Wt. Pounds
						Reels Approx. Length, Ft.	Coils Approx. Length, Ft.	
2000000	7000	36960	2.03	91	1483	500	—	3500
1750000	6140	32419	1.92	91	1387	500	—	3070
1500000	5260	27773	1.81	61	1568	500	—	2630
1250000	4420	23338	1.69	61	1432	500	—	2210
1000000	3560	18797	1.55	61	1280	500	—	1780
950000	3400	17952	1.52	61	1248	1000	—	3400
900000	3220	17002	1.49	61	1215	1000	—	3220
850000	3050	16104	1.46	61	1180	1000	—	3050
800000	2880	15206	1.43	61	1145	1000	—	2880
750000	2710	14309	1.40	61	1109	1000	—	2710
700000	2540	13411	1.37	61	1071	1000	—	2540
650000	2370	12514	1.33	61	1032	1000	—	2370
600000	2200	11616	1.29	37	1273	1000	—	2200
550000	2030	10718	1.26	37	1219	1000	—	2030
500000	1850	9768	1.22	37	1162	1000	—	1850
450000	1680	8870	1.18	37	1103	1000	—	1680
400000	1520	8026	1.14	19	1451	1000	—	1520
350000	1340	7075	1.10	19	1357	2000	—	2680
300000	1170	6178	1.05	19	1257	2000	—	2340
250000	990	5227	1.00	19	1147	2000	—	1980
0000	800	4224	.82	7	1739	2000	—	1600
000	650	3432	.75	7	1548	2000	—	1300
00	525	2772	.68	7	1379	2000	—	1050
0	425	2244	.62	7	1228	2000	—	850
1	330	1742	.55	7	1093	2000	—	660
2	265	1399	.50	7	.0974	—	1000	265
3	210	1109	.45	7	.0867	—	1000	210
4	170	898	.41	7	.0772	—	1000	170
5	140	739	.37	7	.0688	—	1000	140
6	115	607	.34	7	.0612	—	2000	230
8	78	412	.29	7	.0545	—	2000	156
9	65	343	.27	7	.0432	—	2000	130
10	56	296	.25	7	.0385	—	2000	112

Prices Quoted upon Application



## WEATHERPROOF COPPER WIRES



No. 2 Stranded—Double Braid

### DOUBLE BRAID—STRANDED CONDUCTOR

Double braid weatherproof is exactly similar in construction to triple braid weatherproof except that the covering consists of two braids only. This type is often used under favorable conditions when economy is essential. It is not approved by the National Board of Fire Underwriters.

Size Cir. Mils. and A.W.G.	Approx. Wt. Lbs. per 1000 Ft.	Approx. Wt. Lbs. per Mile	Approx. Diam. over Insulation Inches	No. of Wires	Diam. Each Inches	PUT UP FOR SHIPMENT		Approx. Ship. Wt. Pounds
						Reels Approx. Length, Ft.	Coils Approx. Length, Ft.	
2000000	6700	35380	1.90	91	1483	500	.....	3350
1750000	5860	30940	1.80	91	1387	500	.....	2930
1500000	5020	26510	1.68	61	1568	500	.....	2510
1250000	4210	22230	1.56	61	1432	500	.....	2105
1000000	3390	17900	1.42	61	1280	500	.....	1695
950000	3220	17000	1.39	61	1248	1000	.....	3220
900000	3060	16160	1.36	61	1215	1000	.....	3060
850000	2900	15310	1.33	61	1180	1000	.....	2900
800000	2720	14360	1.30	61	1145	1000	.....	2720
750000	2560	13520	1.27	61	1109	1000	.....	2560
700000	2400	12670	1.23	61	1071	1000	.....	2400
650000	2240	11830	1.20	61	1032	1000	.....	2240
600000	2060	10880	1.16	37	1273	1000	.....	2060
550000	1900	10030	1.12	37	1219	1000	.....	1900
500000	1740	9187	1.08	37	1162	1000	.....	1740
450000	1580	8342	1.04	37	1103	1000	.....	1580
400000	1420	7498	1.00	19	1451	1000	.....	1420
350000	1250	6600	.95	19	1357	2000	.....	2500
300000	1080	5702	.90	19	1257	2000	.....	2160
250000	910	4805	.85	19	1147	2000	.....	1820
0000	750	3960	.73	7	1739	2000	.....	1500
000	605	3194	.67	7	1548	2000	.....	1210
00	485	2561	.61	7	1379	2000	.....	970
0	385	2033	.54	7	1228	2000	.....	770
1	305	1610	.48	7	1093	2000	.....	610
2	245	1294	.43	7	.0974	.....	1000	245
3	195	1030	.39	7	.0867	.....	1000	195
4	155	818	.36	7	.0772	.....	1000	155
5	128	676	.33	7	.0688	.....	2000	256
6	103	544	.30	7	.0612	.....	2000	206
8	68	359	.25	7	.0545	.....	2000	136
9	56	296	.23	7	.0432	.....	2000	112
10	48	253	.22	7	.0385	.....	2000	96

Prices Quoted upon Application



## SLOW-BURNING AND WEATHERPROOF WIRE

## SLOW-BURNING WIRE



Stranded Conductor, Triple Braided

These wires have three close braids all saturated with a white fireproof compound, and finished with a smooth, hard finish. The compound used on the outer braid becomes very hard but still the wire retains its flexibility. As this insulation does not deteriorate in a continued high temperature, it is especially suitable for engine and boiler rooms, furnaces and foundries.

The conductors of these wires are exactly the same as those of ordinary double braid or triple braid weatherproof. Details of construction will be found in the tables for these wires shown on the preceding pages.

Slow-burning wire is considerably heavier than weatherproof. The weights per unit length are greater than those of triple braid weatherproof by about 10 per cent in the case of the larger stranded conductors, this ratio increasing to as much as 35 per cent in the case of small stranded or solid conductors. The approximate weights of standard shipping packages are increased in the same ratio although shipping lengths remain as for weatherproof.

## SLOW-BURNING WEATHERPROOF WIRE



The insulation of this wire does not burn as readily as that of ordinary weatherproof nor is it so liable to soften under heat. It is not suitable for outside work. The insulation is composed of one braid, thoroughly saturated with a black weatherproof compound, covered with two braids saturated with white fireproof compound, giving a hard, smooth finish. Dimensions and weights approximately the same as for slow-burning wire.

## WEATHERPROOF IRON WIRE

## DOUBLE AND TRIPLE BRAIDED

These wires are extensively used in telephone and telegraph work, and have the same insulation as regular weatherproof line wires. They are finished with the same polish as all other weatherproof wires and are put up for shipment in coils only, thoroughly wrapped in burlap.

Size B. W. G.	Double Braided		Triple Braided		Length of Coil
	Approx. Lbs. per 1000 Ft.	Approx. Lbs. per Mile	Approx. Lbs. per 1000 Ft.	Approx. Lbs. per Mile	
6	140	739	158	834	$\frac{1}{4}$ mile
8	98	527	112	591	$\frac{3}{4}$ mile
9	78	412	93	491	$\frac{1}{3}$ mile
10	66	349	80	423	$\frac{1}{5}$ mile
12	47	248	59	312	$\frac{1}{2}$ mile
14	31	164	39	206	$\frac{1}{2}$ mile

Prices Quoted upon Application



## RUBBER COVERED WIRES

### SOLID COPPER CONDUCTORS



Our rubber covered wires are made in accordance with the requirements of the National Board of Fire Underwriters. Each coil is tested and receives the stamp of the Wire Inspection Bureau before leaving the factory.

The conductors consist of thoroughly tinned copper wire; they are insulated with a superior grade of rubber compound which is thoroughly vulcanized. Over the insulation is applied the protective fibrous covering which consists of braid thoroughly saturated in weatherproof compound.

The N.E. Code requires at least one braid on No. 8 and smaller and at least two braids or one braid and one tape, on all larger sizes. Black wax with a high melting point gives to these wires the smooth hard outside finish, which makes them especially desirable for conduit work.

Several finishes alternative to the standard weatherproof can be supplied. Single braid wires can be furnished with a white fireproof compound over the braid. We also supply single and multiple conductor cables with lead sheath over all.



No. 10 Solid Single Braid Wire

Single Braid					
Size A. W. G.	Diam. of Copper Inches	Capacity Circular Mils	Rubber Wall Inches	Approx. Diam. Over All Inches	Approx. Wt., Lbs. per 1000 Ft.
8	.1285	16510	$\frac{3}{64}$	.28	75
10	.1019	10380	$\frac{3}{64}$	.25	53
12	.0808	6530	$\frac{3}{64}$	.23	39
14	.0640	4107	$\frac{3}{64}$	.21	30
*16	.0508	2583	$\frac{1}{32}$	.17	18
*18	.0403	1624	$\frac{1}{32}$	.16	15
Double Braid					
0000	.4600	211600	$\frac{5}{64}$	.71	776
000	.4096	167800	$\frac{5}{64}$	.65	627
00	.3648	133100	$\frac{5}{64}$	.60	511
0	.3249	105500	$\frac{5}{64}$	.56	419
1	.2893	83690	$\frac{5}{64}$	.54	360
2	.2576	66370	$\frac{1}{16}$	.48	282
3	.2294	52630	$\frac{1}{16}$	.45	234
4	.2043	41740	$\frac{1}{16}$	.42	195
5	.1819	33102	$\frac{1}{16}$	.40	164
6	.1620	26250	$\frac{1}{16}$	.38	139
8	.1285	16510	$\frac{3}{64}$	.32	87
10	.1019	10380	$\frac{3}{64}$	.29	64
12	.0808	6530	$\frac{3}{64}$	.27	49
14	.0641	4107	$\frac{3}{64}$	.25	39

\* Fixture wire.

Prices Quoted upon Application





## RUBBER COVERED WIRES

## STRANDED COPPER CONDUCTORS



No. 00 Stranded Double Braid Wire

The conductors of these cables consist of a number of small tinned copper wires twisted together to form a concentric strand. The cables thus formed are more pliable than those with solid conductors; in other respects they are exactly similar to the solid conductor wires on the preceding page and can be supplied with the same finishes. Made in accordance with the requirements of the National Board of Fire Underwriters. Each coil is tested and receives the stamp of the Wire Inspection Bureau before leaving the factory.

## Single Braid

Size A. W. G.	No. of Wire	Diam. of Each	Rubber Wall Inches	Approx. Diameter Over All Inches	Approx. Wt., Lbs. per 1000 Ft.
8	7	.0486	$\frac{3}{64}$	.29	81
10	7	.0385	$\frac{3}{64}$	.26	57
12	7	.0305	$\frac{3}{64}$	.24	42
14	7	.0242	$\frac{3}{64}$	.22	32
*16	3	.0293	$\frac{1}{32}$	.18	19
*18	3	.0233	$\frac{1}{64}$	.14	11

## Double Braid

Size A. W. G.	No. of Wire	Diam. of Each	Rubber Wall Inches	Approx. Diameter Over All Inches	Approx. Wt., Lbs. per 1000 Ft.
0000	19	.1055	$\frac{5}{64}$	.78	816
000	19	.0940	$\frac{5}{64}$	.72	666
00	19	.0837	$\frac{5}{64}$	.65	540
0	19	.0745	$\frac{5}{64}$	.61	442
1	19	.0664	$\frac{5}{64}$	.58	381
2	7	.0974	$\frac{1}{16}$	.51	302
3	7	.0867	$\frac{1}{16}$	.48	249
4	7	.0772	$\frac{1}{16}$	.45	209
5	7	.0688	$\frac{1}{16}$	.42	177
6	7	.0612	$\frac{1}{16}$	.40	148
8	7	.0486	$\frac{3}{64}$	.33	95
10	7	.0385	$\frac{3}{64}$	.30	68
12	7	.0305	$\frac{3}{64}$	.28	52
14	7	.0242	$\frac{3}{64}$	.26	41

\*Fixture Wire.

Prices Quoted Upon Application





## RUBBER COVERED WIRES

STRANDED CONDUCTOR CABLES

LARGE SIZES

Taped and Braided



250000 C. M. Stranded Double Braid Cable

Stranded conductors are made according to the specifications of the National Board of Fire Underwriters and each length is tested and stamped before leaving the factory.

Size Cu. Mils.	CONCENTRIC STRANDS No. of Wires	Diam. Inches	Rubber Wall Inches	Approx. Diam. Over All In.	Approx. Wt., Lbs. per 1000 Ft.
2000000	127	1.255	$\frac{1}{8}$	2.09	6874
1750000	127	1.174	$\frac{1}{8}$	1.96	6061
1500000	91	1.284	$\frac{1}{8}$	1.85	5251
1250000	91	1.172	$\frac{1}{8}$	1.72	4428
1000000	61	1.280	$\frac{7}{64}$	1.56	3548
950000	61	1.248	$\frac{7}{64}$	1.52	3385
900000	61	1.215	$\frac{7}{64}$	1.50	3220
850000	61	1.180	$\frac{7}{64}$	1.47	3050
800000	61	1.145	$\frac{7}{64}$	1.44	2884
750000	61	1.109	$\frac{7}{64}$	1.40	2720
700000	61	1.071	$\frac{7}{64}$	1.37	2551
650000	61	1.032	$\frac{7}{64}$	1.28	2367
600000	61	.0992	$\frac{7}{64}$	1.24	2202
550000	61	.0950	$\frac{7}{64}$	1.21	2035
500000	37	1.162	$\frac{3}{32}$	1.13	1834
450000	37	1.103	$\frac{3}{32}$	1.09	1667
400000	37	1.042	$\frac{3}{32}$	1.05	1499
350000	37	.0973	$\frac{3}{32}$	1.00	1330
300000	37	.0900	$\frac{3}{32}$	.92	1151
250000	37	.0822	$\frac{3}{32}$	.87	984

## FLEXIBLE RUBBER-COVERED CABLES



No. 1 Flexible Double Braid Cable

These wires are all National Electrical Code Standard and are especially designed for switch-board, dynamo and motor connections.

Size A. W. G.	Size in C. M.	Rubber Wall Inches	No. Wires	Diam. In.	Approx. Diameter Over All, In.	Approx. Wt., Lbs. per 1000 Ft.
0000	209780	$\frac{5}{64}$	259	.0285	.86	876
000	171320	$\frac{3}{64}$	133	.0359	.79	733
00	135850	$\frac{3}{64}$	133	.0320	.73	601
0	107730	$\frac{3}{64}$	133	.0285	.66	489
1	82780	$\frac{3}{64}$	91	.0302	.57	364
2	65650	$\frac{1}{16}$	91	.0269	.52	299
3	52070	$\frac{1}{16}$	91	.0239	.49	249
4	39200	$\frac{1}{16}$	61	.0254	.45	200
5	31070	$\frac{1}{16}$	61	.0226	.43	169
6	24640	$\frac{1}{16}$	61	.0201	.41	143
8	17400	$\frac{3}{64}$	61	.0169	.35	100
10	10560	$\frac{3}{64}$	37	.0169	.32	69
12	6634	$\frac{3}{64}$	37	.0134	.29	53
14	4181	$\frac{3}{64}$	37	.0106	.27	41

Prices Quoted upon Application





## RUBBER COVERED WIRES

TWIN—PARALLEL—COPPER  
CONDUCTORS

No. 14 Solid Twin Wire

Twin rubber covered wire consists of two National Electrical Code wires laid parallel, one conductor having a white braid and the other a black braid; over the parallel conductors, an additional black braid. Wire of this construction is approved by the National Board of Fire Underwriters for use in unlined conduits.

## Twin, Solid

Size A. W. G.	Size C. M.	Rubber Wall Inches	Approx. Dimensions Over All Inches	Approx. Wt., Lbs. per 1000 Ft.
8	16510	$\frac{3}{64}$	.32 x .60	170
10	10380	$\frac{3}{64}$	.29 x .54	130
12	6530	$\frac{3}{64}$	.27 x .50	97
14	4107	$\frac{3}{64}$	.25 x .40	76

## Twin, Stranded

Size A. W. G.	Size C. M.	Rubber Wall Inches	CONCENTRIC STRANDS No. Wires	Diam. Each	Approx. Dimensions Over All Inches	Approx. Wt., Lbs. per 1000 Ft.
1	83690	$\frac{5}{64}$	19	.0664	.58 x 1.11	820
2	60370	$\frac{1}{16}$	7	.0974	.51 x .97	651
3	52630	$\frac{1}{16}$	7	.0867	.48 x .91	540
4	41740	$\frac{1}{16}$	7	.0772	.45 x .85	451
5	33100	$\frac{1}{16}$	7	.0688	.42 x .79	375
6	26250	$\frac{1}{16}$	7	.0612	.40 x .75	321
8	16510	$\frac{3}{64}$	7	.0486	.33 x .62	205
10	10380	$\frac{3}{64}$	7	.0385	.30 x .56	151
12	6530	$\frac{3}{64}$	7	.0305	.28 x .52	111
14	4107	$\frac{3}{64}$	7	.0242	.26 x .48	86

## FIXTURE WIRE



No. 18 Solid Conductor Fixture Wire

A single conductor wire, designed for wiring fixtures, show cases, etc., and furnished in solid or stranded conductor as wanted.

Conductors are insulated with N. E. Code compound and then covered with a saturated cotton braid. Dry cotton or silk can also be furnished.

## SOLID FIXTURE WIRE

## N. E. C. Standard

The standard approved sizes are Nos. 16 and 18 A. W. G. Can be used for wiring fixtures, without restriction, except where special forms of wire are required on account of temperature conditions.

Size A. W. G.	Rubber Wall In.	Diam. Over All In.	Approx. Wt., Lbs. per 1000 Ft.	Size A. W. G.	Rubber Wall In.	Diam. Over All In.	Approx. Wt., Lbs. per 1000 Ft.
12	$\frac{3}{64}$	.23	39	*16	$\frac{1}{32}$	.17	18
14	$\frac{3}{64}$	.21	30	18	$\frac{1}{32}$	.16	15

## Light Insulation

Used for wiring fixtures, except for the wiring of chains and where special forms of wire are required because of temperature conditions. Size No. 18 A. W. G. is the only size permitted by the Underwriters. Silk covered light fixture wire is recommended for use with especially small, fixture stems, where the regular size is too large. Stranded fixture wire is recommended for use in movable stems.

14	$\frac{1}{32}$	.18	27	†18	$\frac{1}{64}$	.13	13
16	$\frac{1}{64}$	.14	16	20	$\frac{1}{64}$	.12	11

\*Type F-32. †Type F-64

Prices Quoted Upon Application



# RUBBER COVERED WIRES

IMPERIAL



HIGRADE

This wire was designed to meet the demand when a better grade than Adanae is required and where the requirements do not justify the use of 30 per cent Para. It is the grade generally supplied on special or high-class building work. In elasticity, tensile strength and dielectric qualities, the insulation is much superior to the ordinary grade and in order that it may be readily distinguished it has been given a red colored braid, through which is woven spirally a dark blue thread, the preservative wax being transparent. Each coil is tested and stamped with the Underwriters' Laboratories, Inc., Label before leaving the factory.

Dimensions, weights, etc., approximately the same as for Adanae wires.

## 30 PER CENT PARA

The insulation used for this wire is made in accordance with the rubber covered wire engineers' specifications and is the best compound for special or high voltage work or for very severe service conditions. Each coil is tested and stamped with the Underwriters' Laboratories, Inc., Label before leaving the factory.

Dimensions, weights, etc., approximately the same as for Adanae wires.

## STRANDING

### STANDARD, FLEXIBLE AND C. M. CONDUCTORS

When strands are not specified the following will be furnished:

Standard Strands				Flexible Strands			Standard Strands			
Size A.W.G.	Strands	Strand Diam. In.	Wt. Lbs. per 1000 Ft.	Strands	Strand Diam. In.	Wt. Lbs. per 1000 Ft.	Size C.M.	Strands	Strand Diam. In.	Wt. Lbs. per 1000 Ft.
0000	19- 1055	.528	653	259- 0285	.598	669	250000	37- .0822	.575	772
000	19- 0940	.470	518	133- 0359	.538	547	300000	37- .0900	.630	926
00	19- 0837	.419	411	133- 0320	.479	434	350000	37- .0973	.681	1081
0	19- 0745	.373	326	133- 0285	.427	344	400000	37- 1042	.728	1235
1	19- 0664	.332	258	91- 0302	.382	256	450000	37- 1103	.772	1389
2	7- 0974	.292	205	91- 0269	.296	203	500000	37- 1162	.813	1544
3	7- 0867	.260	163	91- 0239	.263	161	550000	61- 0950	.855	1698
4	7- 0772	.232	129	61- 0254	.228	121	600000	61- 0992	.893	1853
5	7- 0688	.206	102	61- 0226	.203	96	650000	61- 1032	.923	2007
6	7- 0612	.184	81	61- 0201	.181	76	700000	61- 1071	.964	2161
8	7- 0486	.146	51	61- 0169	.152	54	750000	61- 1109	.998	2316
10	7- 0385	.116	32	37- 0169	.118	33	800000	61- 1145	1.031	2470
12	7- 0305	.092	20	37- 0134	.094	20	850000	61- 1180	1.062	2624
14	7- 0242	.073	13	37- 0106	.074	13	900000	61- 1215	1.094	2779
16	3- 0293	.063	8				950000	61- 1248	1.123	2933
18	3- 0233	.050	5				1000000	61- 1280	1.152	3088
20							1250000	91- 1172	1.289	3859
							1500000	91- 1284	1.412	4631
							1750000	127- 1174	1.526	5403
							2000000	127- 1255	1.632	6175





Flexibility is the predominating feature of our standard and special flexible cords and cables, as listed hereinafter. Every step in the manufacture of our products is carefully inspected and no expense is spared to produce the best obtainable flexible cords and cables.

A large stock of all standard cords is always available so as to give prompt and satisfactory service.

#### GENERAL DESCRIPTION

Flexible cords consist of small extra flexible copper conductors, insulated and protected in a manner suitable for the service which will be required of them.

The conductors consist of a number of small individual copper strands, cabled together. A cotton separator is used to minimize chemical action between the copper and the rubber insulation. The cotton separator also serves to keep broken strands from puncturing the insulation. The insulation consists of a rubber compound which meets all the requirements of the N. E. Code (1920).

All flexible cords manufactured by the Northern Electric Co., carry the Company's standard marker consisting of two yellow threads cabled with the copper strands.

#### STANDARD STRANDING

Size of Conductor A. W. G.	No. of Wires No. 30 A. W. G.	Size of Conductor A. W. G.	No. of Wires No. 30 A. W. G.
8	165	16	26
10	104	18	16
12	65	*20	10
14	41		

\*This size is not approved by the National Electrical Code rules.

#### COLORS

**COTTON COVERED CORDS.**—The standard finish of cotton covered cords is a green and yellow (combination) braid which will be furnished unless otherwise ordered. The following colors can be supplied also or combinations of any two of them: Red, black, brown, green, yellow, blue, gray, oak and slate.

**SILK COVERED CORDS.**—In all cases when ordering silk covered cords, the color required must be specified. The following are standard colors: Green, maroon, olive, old gold, blue, brown, brushed brass, black, red, white and yellow.



## TYPES OF FLEXIBLE CORDS

### LAMP CORD, TYPE C



For general use as pendant cord in dry places; as portable cord for use when not exposed to hard usage.

CONSTRUCTION.—Two or more insulated conductors twisted together with glazed cotton or silk braid on each conductor. No outer covering. Insulation not less than  $\frac{1}{32}$  inch on No. 18 and No. 16 A.W.G. For larger sizes same as rubber-covered wire.

Approximate weights of two-conductor cord:

Size A.W.G.	WEIGHT, POUNDS PER 1000 FEET		Size A.W.G.	WEIGHT, POUNDS PER 1000 FEET	
	Cotton	Silk		Cotton	Silk
10	120	115	16	37	34
12	85	81	18	27	25
14	63	59	20	21	19

### FIXTURE CORD—FORMER TYPE F-64

Similar to lamp cord (Type C) except that the thickness of the insulation is only  $\frac{1}{64}$  inch.

This type of cord is no longer allowed by the N. E. code and therefore cannot be labelled as being in accordance with code requirements.

### TWISTED PORTABLE CORD, TYPE PD



For portable use in offices, dwellings and similar dry places where not likely to be subjected to rough usage and where appearance is an essential feature.

CONSTRUCTION.—Twisted pair with glazed or plain cotton braid on each conductor; glazed cotton or silk outer covering around twisted conductors; insulation not less than  $\frac{1}{32}$  inch on Nos. 18 and 16 A.W.G.; for larger sizes same as rubber-covered wire.

Approximate weights of two-conductor cord.

Size A.W.G.	WEIGHT, POUNDS PER 1000 FEET		Size A.W.G.	WEIGHT, POUNDS PER 1000 FEET	
	Cotton	Silk		Cotton	Silk
10	121	116	16	41	38
12	88	83	18	30	27
14	67	62	20	23	20

### PARALLEL CORD, TYPE PO



Exactly similar to Type PD shown above, except that the conductors are laid parallel instead of being twisted together.

Prices Quoted upon Application



## TYPES OF FLEXIBLE CORDS

## REINFORCED CORD, TYPE P



For pendant or portable use in dry places only.

CONSTRUCTION.—Twisted pair with glazed or plain cotton braid on each conductor; rubber jacket not less than  $\frac{1}{8}$ -inch thick around twisted pair; outer covering of glazed cotton or silk; insulation not less than  $\frac{1}{32}$  inch for Nos. 18 and 16 A.W.G.; for larger sizes same as rubber-covered wire.

Approximate weights of two-conductor cord;

Size A.W.G.	WEIGHT, POUNDS PER 1000 FEET Cotton	Silk	Size A.W.G.	WEIGHT, POUNDS, PER 1000 FEET Cotton	Silk
10	198	192	16	73	69
12	148	143	18	57	54
14	117	112	20	47	45

## ARMORED CORD, TYPE CA

For pendant or portable use in dry places such as show windows, etc.

CONSTRUCTION.—Twisted pair with glazed or plain cotton braid on each conductor and the twisted pair encased in standard armor; insulation not less than  $\frac{1}{32}$  inch for Nos. 18 and 16 A.W.G.; for larger sizes same as for rubber-covered wire.

## ARMORED REINFORCED CORD, TYPE PA

For portable use in dry places where likely to be subjected to severe service.

CONSTRUCTION.—Twisted pair with glazed or plain cotton braid on each conductor; rubber jacket not less than  $\frac{1}{8}$ -inch thick around twisted pair; outer covering of glazed cotton or silk; the whole encased in standard armor; insulation not less than  $\frac{1}{32}$  inch for Nos. 18 and 16 A.W.G.; for larger sizes same as rubber-covered wire.

## BREWERY CORD, TYPE CB



Weatherproof cord especially designed for use in breweries and other places where dampness is prevalent. This cord should hang freely in air.

CONSTRUCTION.—Twisted pair with glazed or plain cotton braid on each conductor; braid saturated in moisture-proof compound; insulation not less than  $\frac{1}{32}$ -inch for Nos. 18 and 16 A.W.G.; for larger sizes same as rubber-covered wire.

Prices Quoted upon Application



## TYPES OF FLEXIBLE CORDS

### CANVASITE CORD, TYPE CC



An acid-proof flexible cord of great toughness and durability designed for use in dyeing establishments, cold storage plants, etc., where mechanical and chemical conditions are severe. This cord should hang freely in air.

**CONSTRUCTION.**—Similar to Type CB with the exception that it has an additional outer covering of cotton braid saturated in moisture-proof compound.

### REINFORCED WEATHERPROOF CORD, TYPE PW<sub>p</sub>



For pendant or portable use in damp places.

**CONSTRUCTION.**—Exactly similar to Type P, except that the outer braid is saturated and finished with a weatherproof compound.

Size A.W.G.	Wt., Lbs. per 1000 Ft.	Size A.W.G.	Wt., Lbs. per 1000 Ft.
10	209	16	81
12	159	18	64
14	127	20	52

### PACKING HOUSE CORD, TYPE PkW<sub>p</sub>



Especially constructed for use in packing houses or other places where the cord will be subjected to both dampness and rough usage.

**CONSTRUCTION.**—Twisted pair with glazed or plain cotton on each conductor; these built up with jute or twisted paper filler to provide circular exterior; outer covering of two braids of plain cotton, both saturated with moisture proof compound; if desired tape may be substituted for the inner braid of the outer covering; insulation not less than  $\frac{1}{32}$  inch for Nos. 18 and 16 A.W.G.; for larger sizes same as for rubber covered wire.

### ARMORED REINFORCED WEATHERPROOF CORD, TYPE PAW<sub>p</sub>

For portable use in damp places where likely to be subjected to severe service.

**CONSTRUCTION.**—Twisted pair with glazed or plain cotton braid on each conductor; rubber jacket not less than  $\frac{1}{16}$ -inch thick enclosing the twisted pair; outer covering of plain cotton, saturated with moisture-proof compound, the whole encased in standard armor; insulation not less than  $\frac{1}{32}$  inch for Nos. 18 and 16 A.W.G.; for larger sizes same as rubber-covered wire.

Prices Quoted upon Application



## TYPES OF FLEXIBLE CORDS

## STAGE CABLES, TYPE T



An extremely durable and flexible cord, well protected against abrasion so that it is eminently suitable for use on theatre stages and in similar places.

**CONSTRUCTION.**—Not more than three conductors twisted; glazed or plain cotton braid on each conductor; braids saturated with moistureproof compound and surrounded by jute or twisted paper filler to provide circular exterior; outer covering of two braids of cotton both saturated with moistureproof compound; if desired tape may be substituted for the inner braid of the outer covering; insulation not less than  $\frac{1}{32}$  inch for Nos. 18 and 16 A.W.G. for larger sizes same as rubber-covered wire.

The conductors of this cord must not be larger than No. 4 A.W.G.

## BORDER LIGHT CABLE, TYPE B



For use in supplying current to theatre border lights.

**CONSTRUCTION.**—Similar to stage cable except that no filler is used and that no limit is placed on the number or size of conductors.

## ELEVATOR CABLES, TYPE E



Used for elevator lighting and control.

**CONSTRUCTION.**—Conductors twisted together with glazed or plain cotton braid on each conductor; rubber jacket not less than  $\frac{1}{8}$ -inch thick around assembled conductors; outer covering of plain cotton saturated with moistureproof compound. If desired, the rubber jacket may be omitted, in which case three plain cotton braids may be substituted, the final braid being saturated with a moistureproof compound. Tape may be substituted for either one or both of the two inner braids. Insulation not less than  $\frac{1}{32}$ -inch for No. 16 A.W.G.; for larger sizes same as rubber-covered wire. When used for elevator lighting conductors must not be smaller than No. 14 A.W.G. and when used for elevator control conductors must not be less than No. 16 A.W.G.

## HEATER CORD, TYPE H



For portable use with smoothing irons, sad irons and other heating devices requiring over 250 watts.

**CONSTRUCTION.**—The flexible conductors are made up of small copper strands, cotton wrapped as in the other flexible cords. They are then insulated with a thin wall of rubber compound and covered with felted asbestos. This cord may be finished in three manners:

- 1.—Conductors laid parallel and covered with a glazed cotton or silk braid.
  - 2.—Conductors twisted together and then covered with a glazed cotton or silk braid.
  - 3.—Conductors braided separately with either glazed cotton or silk and then twisted together.
- The type of finish required should be specified when ordering.

Prices Quoted upon Application



# CAB TIRE CABLES

## TYPE S

(THIS NAME HAS BEEN REGISTERED AS A SPECIFIC TRADE MARK.)

The flexible connection for portable lights and motor-driven tools in railway and machine shops, shipyards, chemical works, mines, etc.

CONSTRUCTION.—Flexible copper conductors, insulated to code thickness with a special grade of rubber; conductors twisted together and covered with a heavy jacket of special wear-proof vulcanized rubber compound, very similar to that used for cab tires. It has no outer braid. This cable will resist the action of steam, oil, acid or alkalies; is light and flexible and will out-wear any braided cable.

Standard cable has two conductors. Also manufactured with three or more conductors.

Approximate weights of two-conductor cable.

Size A. W. G.	Wt., Lbs. per 1000 Ft.	Size A. W. G.	Wt., Lbs. per 1000 Ft.
8	386	14	144
10	267	16	94
12	214	18	78

Prices Quoted upon Application

## SUMMARY TABLE

Cord	Type	Braid over Insulation of each Conductor	Insulating Jacket over Assembled Conductors	Outer Cover Enclosing Several Conductors
Lamp	C	Cotton or silk	None	None
Light Fixture	{ Former F-64 }	Cotton or silk	None	None
Twisted Portable	PD	Cotton or silk	None	Cotton or silk
Parallel	PO	Cotton or silk	None	Cotton or silk
Reinforced	P	Cotton or silk	$\frac{1}{64}$ -in. rubber	Cotton or silk
Armored	CA	Cotton or silk	None	Armor
Armored reinforced	PA	Cotton or silk	$\frac{1}{64}$ -in. rubber	Cotton and Armor
Brewery	CB	Weatherproof cotton	None	None
Canvasite	CC	Weatherproof cotton	None	Weatherproof cotton
Reinforced weatherproof	PWp	Cotton	$\frac{1}{64}$ -in. rubber	Weatherproof cotton
Packing house	PKWp	Cotton	None	{ Two braids both weatherproof cotton
Armored reinforced weatherproof	{ PAWp	Cotton	$\frac{1}{64}$ -in. rubber	{ Weatherproof cotton and armor
Stage	T	Weatherproof cotton	None	{ Two braids both weather- proof cotton
Border Light	E	Weatherproof cotton	None	{ Two braids both weather- proof cotton
Elevator	E	Cotton	{ $\frac{1}{64}$ -in. rubber  No jacket	{ 1 or more weatherproof cotton coverings or 3 cotton coverings outer one weatherproof
Heater	H	{ (A) Cotton or silk (B) None	{ None None	{ None Cotton or silk
Cab Tire	S	None	{ Heavy jacket special rubber	{ None



## INTERIOR COPPER WIRES AND CABLES

## ANNUNCIATOR WIRE



Annunciator wire is used for connecting call bells, annunciators etc., on low voltage battery circuits. The wire consists of a solid annealed copper conductor, wound with two tight servings of cotton, saturated in a transparent wax compound and carefully polished to prevent the adherence of dust. The standard colors of annunciator wire are red, brown, blue, black, green, white, red-white, brown-white, blue-white, blue-brown, and green-white.

The wire is usually shipped in  $\frac{1}{3}$  pound and one-pound coils, or on one-pound, two-pound and seven-pound spools, in sizes No. 14, 16, 18, 20 and 22 A.W.G.

## DAMP-PROOF ANNUNCIATOR WIRE

This wire is for use in damp places and is made up similar to annunciator wire, except that the inner serving of cotton is saturated in a black weatherproof compound which protects the wire against moisture.

Regular			Damp-proof		
APPROX. WT., LBS. PER 1000 FEET			APPROX. WT., LBS. PER 1000 FEET		
Size A. W. G.	Single Conductor	Twisted Pair	Size A. W. G.	Single Conductor	Twisted Pair
14	15	30	14	16.6	33.2
16	9	18	16	11.1	22.2
18	6	12	18	7.7	15.4
20	4	8	20	5.0	10.0
22	3	6	22	3.1	6.2

## ANNUNCIATOR CABLE

Annunciator cable is used in wiring buildings for electric bells, annunciators, etc. The cable consists of any desired number of annunciator wires stranded together and covered with a cotton braid saturated in a transparent wax compound and polished.

## ELEVATOR ANNUNCIATOR CABLE

Elevator annunciator cable is used to connect the annunciator in the elevator car to the signal push buttons on the different floors. As it hangs freely in the shaft at all times it must possess strength and flexibility. The conductors are composed of a strand of fine copper wires insulated with servings of cotton and covered with a dry cotton braid. The braid of each conductor has a distinctive marking throughout its length so that it can be easily identified at either end of the cable. The required number of conductors are cabled together and covered with two heavy dry cotton braids. Where extreme flexibility and greater tensile strength are required, the conductors may be cabled around a hemp or jute core.

## OFFICE WIRE

Office wire is largely used by telephone and telegraph companies for high grade annunciator wiring. It is a superior grade of annunciator wire insulated with a cotton serving and a braid saturated in a transparent compound and polished. The standard color is red-white and it is supplied in the following standard sizes, in coils of about 500 feet.

Size A. W. G.	Feet per Lb.	Wt., Lbs., per 1000 Ft.	Size A. W. G.	Feet per Lb.	Wt., Lbs., per 1000 Ft.
12	44	23	18	143	7
14	63	16	20	200	5
16	100	10			

## DAMP-PROOF OFFICE WIRE



No. 18 Single Conductor

This wire is for use in damp places and is insulated with servings of cotton saturated in a black weatherproof compound, to protect the wire from moisture. It is then covered with a cotton braid saturated in a transparent compound and polished. It is supplied in the same sizes and color as office wire, in coils of about 500 feet.

## OFFICE CABLE

Any number of office wires or damp-proof office wires may be stranded together and braided or lead-covered to form a cable. To facilitate soldering, any of the above types of wires may be tinned if called for. They also may be had in twisted pair form.

## SILK BELL CORD AND CABLE

Silk bell cord is used for desk push buttons and annunciators where good appearance is essential. It consists of a copper conductor which is composed of six fine annealed copper strands each No. 34 A.W.G. insulated with servings of cotton and colored silk. Any number of such conductors may be stranded together to form a cable, over which, unless otherwise specified, no further covering is placed. Standard colors are royal blue, green, old gold, yellow, olive and maroon.

Prices Quoted on Application.



# MAGNET WIRE



No. 00 Double Cotton Cover Wire

The bare copper intended for magnet wire is specially drawn from copper of the highest conductivity, great care being taken to have it true to gauge. It is annealed so as to be dead soft.

A variation of 1 per cent either way is allowed in the diameter of the bare copper in sizes from No. 4/0 to No. 30 A.W.G. A variation of .1 mil (.0001 inch) either way is allowed in sizes from No. 31 to No. 40 A.W.G.

The finest cotton and Italian tram silk is used for insulation, which forms a smooth, continuous and uniform covering at all points on the wire.

We manufacture any special kind of magnet wire required, flats, squares and strands, insulated with single, double or triple windings or in any combination of braids and windings that may be desired.

## COTTON COVERED MAGNET WIRE

Wire		Single			Double			REEL DIMENSIONS INCHES	
Size A. W. G.	Bare Diam. In.	Over All Diam. In.	Approx. Lbs. on Reel	Wt., Lbs. per 1000 Ft.	Over All Diam. In.	Approx. Lbs. on Reel	Wt., Lbs. per 1000 Ft.	Side	Transverse
0000	.4600	.4720	210	642.2	.4800	210	643.8	28	6 1/2
000	.4096	.4216	210	509.4	.4296	210	510.8	28	6 1/2
00	.3648	.3768	210	404.1	.3848	210	405.4	24	6
0	.3249	.3369	210	320.9	.3449	210	322.2	24	6
1	.2893	.3013	210	254.5	.3093	210	255.6	24	6
2	.2576	.2696	210	202.0	.2776	210	202.9	24	6
3	.2294	.2414	210	160.2	.2494	210	161.0	24	6
4	.2043	.2163	210	127.2	.2243	210	128.0	24	6
5	.1819	.1939	210	101.0	.2019	210	101.5	24	6
6	.1620	.1720	210	80.15	.1790	210	80.76	24	6
7	.1443	.1543	210	63.73	.1613	210	64.25	24	6
8	.1285	.1375	210	50.58	.1435	210	51.07	24	6
9	.1144	.1224	210	40.13	.1274	210	40.58	24	6
10	.1019	.1069	210	31.87	.1129	210	32.28	24	6
11	.0907	.0957	200	25.30	.1007	175	25.64	20	6
12	.0808	.0858	200	20.12	.0908	175	20.46	20	6
13	.0720	.0770	200	16.01	.0820	170	16.32	20	6
14	.0641	.0691	200	12.71	.0741	170	13.01	20	6
15	.0571	.0621	175	10.11	.0671	150	10.38	20	6
16	.0508	.0558	175	8.03	.0608	150	8.26	20	6
17	.0453	.0503	60	6.40	.0553	60	6.60	12	5
18	.0403	.0453	55	5.09	.0503	55	5.28	12	5
19	.0359	.0409	50	4.06	.0459	50	4.24	12	5
20	.0320	.0370	50	3.23	.0420	50	3.40	12	5
21	.0285	.0335	50	2.57	.0375	50	2.73	12	5
22	.0254	.0304	7	2.04	.0344	6.5	2.17	6	2 3/4
23	.0226	.0276	7	1.64	.0316	6	1.75	6	2 3/4
24	.0201	.0251	6	1.31	.0291	6	1.42	6	2 3/4
25	.0179	.0229	6	1.05	.0269	6	1.15	6	2 3/4
26	.0159	.0209	6	.83	.0249	6	.93	6	2 3/4
27	.0142	.0192	4	.67	.0232	3.5	.76	4 1/2	2 3/4
28	.0126	.0176	4	.53	.0216	3.5	.62	4 1/2	2 3/4
29	.0113	.0163	3.5	.44	.0203	3	.51	4 1/2	2 3/4
30	.0100	.0150	3	.35	.0190	1.5	.42	4 1/2	2 3/4
31	.0089	.0139	3	.29	.0179	1.5	.35	4 1/2	2 3/4
32	.0080	.0130	2	.24	.0170	1.5	.29	3 1/2	2 3/4
33	.0071	.0121	2	.19	.0161	1.5	.25	3 1/2	2 3/4
34	.0063	.0113	1.5	.16	.0153	1.25	.21	3 1/2	2 3/4
35	.0056	.0106	1.5	.13	.0146	1.25	.18	3 1/2	2 3/4
36	.0050	.0100	1.25	.11	.0140	1	.15	3 1/2	2 3/4
37	.0045	.0095	1.25	.09	.0135	1	.13	3 1/2	2 3/4
38	.0040	.0090	1	.08	.0130	1	.11	3 1/2	2 3/4
39	.0035	.0085	1	.07	.0125	1	.10	3 1/2	2 3/4
40	.0031	.0081	1	.06	.0121	1	.09	3 1/2	2 3/4

Prices Quoted upon Application.



## MAGNET WIRE

## SILK COVERED MAGNET WIRE

WIRE		Single			Double			SPOOL DIMENSIONS	
Size A. W. G.	Bare Diam. In.	Over All Diam. In.	Approx. Lbs. on Spool	Lbs. per 1000 Ft.	Over All Diam. In.	Approx. Lbs. on Spool	Lbs. per 1000 Ft.	Size	INCHES
16	0508	0531	9	7.91	0541	8	8.01	6	2 3/4
17	0453	0476	9	6.28	0486	8	6.37	6	2 3/4
18	0403	0426	9	4.97	0436	8	5.07	6	2 3/4
19	0359	0382	9	3.95	0392	8	3.96	6	2 3/4
20	0320	0343	9	3.15	0353	8	3.19	6	2 3/4
21	0285	0308	8	2.50	0318	7.5	2.53	6	2 3/4
22	0254	0276	8	1.97	0286	7.5	2.00	6	2 3/4
23	0226	0249	8	1.58	0259	7.5	1.59	6	2 3/4
24	0201	0224	8	1.25	0234	7.5	1.28	6	2 3/4
25	0179	0202	8	.99	0212	7.5	1.01	6	2 3/4
26	0159	0182	5.5	.79	0192	5	.80	4 1/2	2 3/4
27	0142	0165	5.5	.63	0175	4.5	.64	4 1/2	2 3/4
28	0126	0149	5.5	.50	0159	4.5	.51	4 1/2	2 3/4
29	0113	0136	5.5	.40	0146	4.5	.41	4 1/2	2 3/4
30	0100	0123	3	.32	0133	2.5	.33	3 1/2	2 3/4
31	0089	0112	3	.25	0122	2.5	.26	3 1/2	2 3/4
32	0080	0102	2.5	.20	0112	2	.21	3 1/2	2 3/4
33	0071	0094	2	.16	0104	1.5	.17	3 1/2	2 3/4
34	0063	0086	2	.13	0096	1.5	.14	3 1/2	2 3/4
35	0056	0079	1.75	.11	0089	1.5	.11	3 1/2	2 3/4
36	0050	0073	1.75	.08	0083	1.5	.09	3 1/2	2 3/4
37	0045	0067	1.5	.07	0077	1	.08	3 1/2	2 3/4
38	0040	0063	1.5	.06	0073	1	.06	3 1/2	2 3/4
39	0035	0058	1	.05	0068	1	.05	3 1/2	2 3/4
40	0031	0054	1	.04	0064	1	.05	3 1/2	2 3/4

## BLACK ENAMELED MAGNET WIRE

WIRE		Enameled			Enameled & S. S. C.			Enameled & S. S. C.		
Size A. W. G.	Bare Diam. In.	Approx. Insul. Diam.	Approx. Lbs. per 1000 Ft.	Approx. Wt. per Spool	Approx. Insul. Diam.	Approx. Lbs. per 1000 Ft.	Approx. Wt. per Spool	Approx. Insul. Diam.	Approx. Lbs. per 1000 Ft.	Approx. Wt. per Spool
14	0641	0668	12.56	18	0714	12.84	18			
15	0571	0596	9.97	18	0642	10.22	18			
16	0508	0532	7.90	18	0579	8.11	18			
17	0453	0475	6.28	18	0522	6.48	18			
18	0403	0424	4.98	18	0472	5.17	18	0447	5.03	18
19	0359	0379	3.95	18	0428	4.11	18	0402	4.00	18
20	0320	0339	3.14	18	0387	3.28	18	0362	3.20	18
21	0285	0303	2.50	18	0351	2.62	18	0326	2.55	18
22	0254	0271	1.97	18	0321	2.06	18	0293	1.99	18
23	0226	0242	1.57	18	0291	1.67	18	0266	1.61	18
24	0201	0218	1.24	3	0267	1.33	3	0241	1.27	3
25	0179	0191	.98	3	0240	1.06	3	0214	1.00	3
26	0159	0171	.78	3	0221	.84	3	0194	.80	3
27	0142	0153	.62	3	0202	.68	3	0176	.64	3
28	0126	0136	.49	3	0185	.54	3	0159	.51	3
29	0113	0122	.39	3	0171	.45	3	0145	.41	3
30	0100	0110	.31	2 1/2	0159	.36	2 1/2	0133	.33	2 1/2
31	0089	0098	.25	2 1/2	0148	.30	2 1/2	0121	.26	2 1/2
32	0080	0088	.20	2 1/2	0135	.25	2 1/2	0110	.21	2 1/2
33	0071	0079	.16	2 1/2	0129	.20	2 1/2	0102	.17	2 1/2
34	0063	0070	.12	2 1/2	0120	.16	2 1/2	0093	.13	2 1/2
35	0056	0063	.10	2 1/2	0113	.13	2 1/2	0086	.11	2 1/2
36	0050	0056	.08	1 1/2	0106	.11	1 1/2	0079	.09	1 1/2
37	0045	0051	.06	1 1/2				0073	.07	1 1/2
38	0040	0045	.05	1 1/2				0068	.06	1 1/2
39	0035	0040	.04	1 1/2				0063	.05	1 1/2
40	0031	0036	.03	1 1/2				0059	.04	1 1/2

Prices Quoted upon Application



## MISCELLANEOUS WIRES

### ASBESTOS INSULATED RANGE WIRE

This is used where an absolutely fire-proof wire is desired for low tension service, such as for the interior wiring of electric ranges and places where very high temperatures are encountered. Either solid or stranded conductor, it is insulated with lappings and an asbestos braid thoroughly impregnated with flameproof compound. This class of wire is not weatherproof.

### MOVING PICTURE CABLE

For use with moving picture machines for connections between the lamp and the rheostat, where the temperature is high.

**CONSTRUCTION.**—Single flexible conductor covered with two cotton braids and an asbestos braid, all saturated in slow-burning compound.

### SLOWBURNING FIXTURE WIRE

For use only in electric fixtures (as with gas filled lamps) where the temperature to which the wire is subjected at any point exceeds 120 degrees, Fahrenheit and where the difference of potential between wires does not exceed 300 volts.

**CONSTRUCTION.**—A single conductor insulated with two cotton braids saturated with non-conducting fireproof compound. This wire is supplied in Nos. 18 and 16 A.W.G. sizes with either a solid or a flexible conductor.

### BRASS WIRE

Brass wire is used for a variety of commercial purposes and varies considerably in composition for different requirements.

We supply all types of brass wire and specialize in wires for use in the manufacture of pins and screws.

Standard grades of brass wire are:

**SOFT.**—Tensile strength 45000 to 55000 pounds per square inch.

**MEDIUM.**—Tensile strength 55000 to 65000 pounds per square inch.

**HARD.**—Tensile strength 65000 to 120000 pounds per square inch.

We also manufacture wire to customers' own specifications supplying any required alloy if the quantity ordered justifies a special run of the metal.

### BRONZE WIRE

We manufacture wire of a special bronze alloy which possesses great tensile strength and toughness.

Used for amature binding, wireless aeriols and antennae, etc.

### COPPER STEEL WIRE

Copper clad steel wire is used as a substitute for solid copper in cases where some of the conductance of the solid copper wire can be sacrificed for greater tensile strength, or where an iron or steel conductor would be rapidly attacked by corrosion. It consists of a steel core over which a copper sheathing is permanently welded.

Two grades of copper clad steel wire are extensively used and are known as 30 per cent and 40 per cent copper clad steel. These designations are derived from the degree of conductivity of the wire with reference to a solid copper wire of the same size, the standard of reference in all cases being the International Annealed Copper Standard.

All types and sizes of copper steel supplied. Special catalogue mailed on application.

### GALVANIZED IRON AND STEEL WIRE

See Section (Pole Line Hardware).

### MARINE CABLE

See Section (Marine Supplies).

Prices Quoted upon Application



## AUTOMOBILE CABLES

Northern Electric Cables are designed to meet every requirement of automobile and motor boat service. In presenting Northern Electric Cables to the trade, we have endeavored to conform to the recommendations of the American Society of Automobile Engineers and at the same time embody the best features of cable at present on the market.

They are made in only one grade and in listing the following lines we do so with the assurance that they will give long and satisfactory service to the user. Our cables are easily recognized, all types having two yellow threads cabled with the copper strands and the braided cables being more easily distinguishable by a characteristic black braid with a red tracer.

### CONDUCTORS

All conductors are made up of tinned copper wires, conforming in size to the recommendations of the American Society of Automobile Engineers, the important feature of extreme flexibility being the result.

### INSULATION

The tinned conductor is uniformly insulated with a special high quality rubber compound with a smooth surface, the thickness of insulation conforming to the recommendations of the American Society of Automobile Engineers.

### BRAIDING

For braided cables there is placed over the rubber insulation a layer of varnished fabric tape, and over this a close cotton braid, thoroughly saturated with a specially prepared varnish, the whole giving the insulation a thorough protection from the deteriorating effects of dirt, grease and oils.

### MULTIPLE CONDUCTOR CABLES

For low tension ignition and lighting purposes a multiple conductor cable gives greater compactness, neatness and facility of installation, than can be obtained by the use of the same number of single conductors. The braids on the individual conductors are placed immediately over the rubber compound and treated with special varnish, different colored cottons being used to make the conductors distinguishable. For round cables the individual conductors are stranded together with the necessary filler to properly round out the core, and the core is then covered with a layer of varnished fabric tape and specially treated braid. For two-conductor cables in twin (flat) form the conductors are laid parallel without filler and covered with the varnished fabric tape and braid.



## AUTOMOBILE CABLES

### IGNITION

CABLES ILLUSTRATED ARE SHOWN EXACT SIZE  
Type MS



Description

Medium high tension magneto cable, plain.

Outside Diameter  
Inches (Approx.)

$\frac{2.3}{64}$

Type BMS



Description

Medium high tension magneto cable, braided.

Outside Diameter  
Inches (Approx.)

$\frac{2.5}{64}$

Type BLS



Description

Large high tension magneto cable, braided.

Outside Diameter  
Inches (Approx.)

$\frac{2.9}{64}$

Type BP-1



Description

Braided low tension cable.

Outside Diameter  
Inches (Approx.)

$\frac{1.3}{64}$

Type BP-2



Description

Braided low tension cable, two conductor.

Outside Diameter  
Inches (Approx.)

$\frac{2.7}{64}$

Type BP-4



Description

Braided low tension cable, four conductor.

Outside Diameter  
Inches (Approx.)

$\frac{3.2}{64}$

For Complete List see page 63.



## AUTOMOBILE CABLES

## LIGHTING AND STARTING

CABLES ILLUSTRATED ARE SHOWN EXACT SIZE

## Type L-14-1



Description  
No. 14 lighting cable, one conductor.

Outside Diameter  
Inches (Approx.)  
 $\frac{13}{64}$

## Type L-12-1



Description  
No. 12 lighting cable, one conductor.

Outside Diameter  
Inches (Approx.)  
 $\frac{11}{64}$

## Type L-12 2F



Description  
No. 12 lighting cable, two conductor, flat.

Outside Diameter  
Inches (Approx.)  
 $\frac{10}{64} \times \frac{17}{64}$

## Type L-10-3



Description  
No. 10 lighting cable, three conductor.

Outside Diameter  
Inches (Approx.)  
 $\frac{9}{64}$

## Type L-8-1



Description  
No. 8 lighting cable, one conductor.

Outside Diameter  
Inches (Approx.)  
 $\frac{7}{64}$

## Type S-4



Description  
No. 4 starting cable.

Outside Diameter  
Inches (Approx.)  
 $\frac{27}{64}$

For Complete List see Page 63



## AUTOMOBILE CABLES

### IGNITION CABLES

Type	Nearest Size A. W. G.	A. W. G. Wires	Description	APPROXIMATE OUTSIDE DIAM. Inch MM.	
*P	16	26 of No. 30	Plain primary wire for low tension use	.197	5.0
SS	16	26 of No. 30	Plain small secondary magneto cable	.276	7.0
MS	14	37 of No. 30	Plain medium secondary high tension cable	.354	9.0
LS	14	37 of No. 30	Plain large secondary high tension cable	.394	10.0
BP-16	16	26 of No. 30	Braided primary for all low tension use	.254	6.5
BSS	16	26 of No. 30	Braided small secondary magneto cable; size in general use	.333	8.5
BMS	14	37 of No. 30	Braided medium secondary cable for high tension use	.411	10.4
BLS	14	37 of No. 30	Braided large secondary cable for all high tension use	.451	11.5
*BP-1	14	41 of No. 30	One conductor cable for all low tension work	.195	5.0
BP-2	14	41 of No. 30	Two conductor low tension cable for two cylinder engines from coil to timer and battery wire (round)	.423	10.7
BP-2F	14	41 of No. 30	Two conductor low tension cable for two cylinder engines from coil to timer and battery wire (flat)	.423	10.7
BP-3	14	41 of No. 30	Three conductor low tension, for three cylinder engines from coil to timer or for two sets of batteries	x .24	x6.1
BP-4	14	41 of No. 30	Four conductor low tension, for four cylinder engines from coil to timer	.451	11.5
BP-5	14	41 of No. 30	Five conductor low tension, for four cylinder engines from coil to timer, with ground or neutral	.497	12.6
BP-6	14	41 of No. 30	Six conductor low tension, for six cylinder engines from coil to timer	.551	14.0
BP-7	14	41 of No. 30	Seven conductor low tension, for six cylinder engines from coil to timer, with ground or neutral	.606	15.4

### LIGHTING CABLES

*L14-1	14	41 of No. 30	One conductor, for wiring tail lamps, small size lamps and all interior wiring	.195	5.0
L14-2	14	41 of No. 30	Two conductor, round for replacing two singles	.423	10.7
L14-2F	14	41 of No. 30	Two conductor, flat for replacing two singles	.423	10.7
L14-3	14	41 of No. 30	Three conductor, for replacing three singles	x .24	x6.1
L-12-1	12	49 of No. 29	One conductor, for wiring side or small head lamps	.451	11.5
L12-2	12	49 of No. 29	Two conductor, round for replacing two singles	.221	5.6
L12-2F	12	49 of No. 29	Two conductor, flat, for replacing two singles	.475	12.1
L12-3	12	49 of No. 29	Three conductor, for replacing three singles	.475	12.1
L10-1	10	49 of No. 27	One conductor, for wiring generator to battery, or for wiring large head lamps	x .266	x6.8
L10-2	10	49 of No. 27	Two conductor, round, for replacing two singles	.507	12.9
L10-2F	10	49 of No. 27	Two conductor, flat, for replacing two singles	.248	6.3
L10-3	10	49 of No. 27	Three conductors, for replacing three singles	.529	13.4
L8-1	8	49 of No. 25	One conductor, for wiring generator to battery or battery to lighting switches	x .293	x7.4
L8-2F	8	49 of No. 25	Two conductor, flat, replaces two singles	.565	14.4

### STARTING CABLES

S-6	6	133 of No. 27	For wiring battery to starting motor	.364	9.3
S-4	4	133 of No. 25	For wiring battery to starting motor, size generally used on small cars	.419	10.9
S-3	3	133 of No. 24	For wiring battery to starting motor	.453	11.5
S-2	2	133 of No. 23	For wiring battery to starting motor	.491	12.5
S-1	1	133 of No. 22	For wiring battery to starting motor, size generally used on large cars	.562	14.3
S-0	1/0	133 of No. 21	For wiring battery to starting motor	.609	15.5
S-00	2/0	133 of No. 20	For wiring battery to starting motor	.662	16.8

\*Can also be supplied with D-shaped armor over all.

Prices Quoted upon Application



## BARE COPPER WIRE

## TROLLEY WIRE



Round



Grooved



Figure 8

Hard drawn trolley wires are furnished in any of the standard styles, round, grooved or figure 8. The cross sections of the various styles and sizes are shown above. The grooved shown is American standard. The conductivity given below is that specified by the American Institute of Electrical Engineers and the American Society for Testing Materials.

Size A. W. G.	Diameter Inches	Cross Section Circular Mils	APPROXIMATE per 1000 Ft.	WT., LBS. per Mile	Approx. Length per Reel	Electrical Conductivity Minimum
0	.3249	105500	320	1686	1 mile	Mile-ohm at 68 degrees
00	.3648	133100	403	2127	1 mile	Fahr. not to exceed
000	.4096	167800	508	2682	$2\frac{2}{3}$ mile	900.7 equals 97 per cent
0000	.4600	211600	641	3382	$2\frac{2}{3}$ mile	Matthiessen's Standard

## COPPER LINE WIRE

## Hard Drawn, Medium Drawn or Soft

These wires are drawn accurately to gauge according to specification. They are of high conductivity and tensile strength.

All copper wires are regularly drawn to American wire gauge.

When ordering state whether hard, medium or soft annealed wire is required.

Size A. W. G.	Diameter Mils	AREA		APPROXIMATE Per 1000 Ft.	WT., LBS. Per Mile	Approximately Put up in
		Circular Mils	Square Inches			
0000	460	211600	.1662	641	3382	200-lb. coils
000	410	167800	.1318	508	2682	200-lb. coils
00	365	133100	.1045	403	2127	200-lb. coils
0	325	105500	.08289	320	1686	200-lb. coils
1	289	83690	.06573	253	1337	200-lb. coils
2	258	66370	.05213	201	1061	200-lb. coils
3	229	52630	.04134	159	841	200-lb. coils
4	204	41740	.03278	126	667	200-lb. coils
5	182	33100	.02600	100	529	200-lb. coils
6	162	26250	.02062	79 5	420	200-lb. coils
7	144	20820	.01635	63 0	333	200-lb. coils
8	128	16510	.01297	50 0	264	200-lb. coils
9	114	13090	.01028	39 6	209	200-lb. coils
10	102	10380	.008155	31 4	166	200-lb. coils
11	91	8234	.006467	24 9	132	100-lb. coils
12	81	6530	.005129	19 8	104	100-lb. coils
13	72	5178	.004067	15 7	82 7	100-lb. coils
14	64	4107	.003225	12 4	65 6	100-lb. coils
15	57	3257	.002558	9 86	52 1	50-lb. coils
16	51	2583	.002029	7 82	41 3	50-lb. coils
17	45	2048	.001609	6 20	32 7	50-lb. coils
18	40	1624	.001276	4 92	26 0	50-lb. coils
19	36	1288	.001012	3 90	20 6	50-lb. coils
20	32	1022	.0008023	3 09	16 3	50-lb. coils

Also put up in long lengths on reels, as desired.

Prices Quoted upon Application



# BARE COPPER WIRE

## STRANDED COPPER CONDUCTOR



Bare copper conductors are made up of concentrically laid wires. The number of wires forming the conductor may be 7, 19, 37, 61 or 91 depending on the size of the finished conductor.

Furnished in hard drawn, medium drawn or soft annealed wire as required.

We can make up stranded conductors to any desired special strand but recommend the standard strandings given below.

Stranded Conductor Or. Mils	WEIGHT, POUNDS		No. of Wires	STANDARD STRANDING	
	per 1000 Ft.	per Mile		Diameter Each Wire Inches	Diameter Stranded Conductor Inches
2000000	6175	32604	91	1483	1 631
1750000	5403	28529	91	1387	1 526
1500000	4631	24453	61	1568	1 411
1250000	3859	20378	61	1432	1 289
1000000	3088	16302	61	1280	1 152
950000	2933	15478	61	1248	1 123
900000	2779	14672	61	1215	1 094
850000	2624	13857	61	1180	1 062
800000	2470	13042	61	1145	1 031
750000	2316	12227	61	1109	998
700000	2161	11412	61	1071	964
650000	2007	10596	61	1032	929
600000	1853	9781	37	1273	891
550000	1698	8966	37	1219	853
500000	1544	8151	37	1162	813
450000	1389	7336	37	1103	772
400000	1235	6521	19	1451	726
350000	1081	5706	19	1357	679
300000	926	4891	19	1257	629
250000	772	4076	19	1147	574

Size A. W. G.	WEIGHT, POUNDS		No. of Wires	STANDARD STRANDING	
	per 1000 Ft.	per Mile		Diameter Each Wire Inches	Diameter Stranded Conductor Inches
0000	653 3	3450	7	1739	522
000	518 1	2736	7	1548	464
00	410 9	2170	7	1379	414
0	325 9	1720	7	1228	368
1	258 4	1364	7	1093	328
2	204 9	1082	7	0974	292
3	162 5	857 8	7	0867	260
4	128 9	680 3	7	0772	232
5	102 2	539 5	7	0688	206
6	81 05	427 9	7	0612	184
8	50 98	269 1	7	0486	146
10	32 06	169 2	7	0385	116
12	20 16	106 5	7	0305	092
14	12 68	66 95	7	0242	073

Prices Quoted upon Application



## CABLE TERMINALS

Cable terminals are designed to protect the ends of lead-covered cables against electrical breakdown and mechanical injury. A very small amount of moisture in the insulation of a cable will destroy the dielectric qualities of the insulation. A properly installed cable terminal of the right type will absolutely prevent the entrance of moisture. A further function of the cable terminal is to re-inforce cables at the ends where breakdowns due to electrostatic discharges generally occur.

We recommend the wiped joint as the best method of connecting cable terminals to the lead sheath of cables. In special cases it is sometimes necessary to use other means. Several methods are shown on Page 28 of Bulletin No. 202. This bulletin will be mailed on request.

We are prepared to quote on cable terminals of special design or to customer's own designs, on orders of sufficient magnitude to warrant this. We, however, prefer to supply our standard terminals.

## INFORMATION REQUIRED WITH ORDER

- 1.—Quantity.
- 2.—Indoor or outdoor.
- 3.—Number and size of conductors.
- 4.—Round or sector conductors.
- 5.—Working voltage.
- 6.—Type of insulation.
- 7.—Diameter over lead sheath. If cable is flat give maximum outside dimensions.
- 8.—State whether necessary insulating compound is to be supplied for filling the terminals.

Example: Twelve (12) outdoor terminals for 3 conductor 2/0 A. W. G. sector 2200 volts paper insulated cable. Diameter over lead sheath 1.44 inch.  
Supply necessary insulating compound.

Any other information that can be supplied concerning the cable and conditions under which the terminals are to operate will regulate our selection to your advantage.

One great advantage possessed by all our terminals is the tapered base. By cutting off more or less of this base, any terminal may be used over a wide range of diameters of cable. A purchaser, at the time of ordering, need not know the exact outside diameter of the cable providing it does not exceed the limits specified in the table.

A few of these terminals carried in stock cover so large a range of cables (by making the slight alteration mentioned above) that a customer in emergency cases would be insured against the inconvenience and delay incurred in ordering and delivery.



## CABLE TERMINALS

### TYPE A

#### FOR INSIDE SERVICE

Made for two ranges of voltage, 0-3300 and 3301-13200 volts, for all sizes of single, double, triple and quadruple conductor cables. The casings are made of cast brass or cast iron, depending on size. The insulating bushings or insulators extend well into the terminal casings.

#### 0-3300 VOLTS



Type A-3 Regular



Type A-3 Flat

Type	No.	Normal Working Voltage	Diam. Over Sheath Inches	APPROX. OVER ALL DIMENS. OF TERMINAL, IN.			Approx. Ship Wt., Lbs.	Approx. Pounds of Compound to Fill
				Height	Width	Depth		
A-1 Single Conductor	2	0-3300	Up to 1.0	6	3 $\frac{3}{4}$	2 $\frac{1}{2}$	2	1 $\frac{1}{2}$
	3	0-3300	1.01-1.63	9 $\frac{1}{2}$	5 $\frac{1}{2}$	3 $\frac{1}{2}$	5	1 $\frac{1}{4}$
	4	0-3300	1.64-2.38	9 $\frac{3}{4}$	6 $\frac{1}{4}$	4 $\frac{1}{2}$	7	2 $\frac{1}{2}$
A-2 Double Conductor	26	0-3300	0-1.94	9	6	2 $\frac{1}{2}$	5	1 $\frac{1}{4}$
	27	0-3300	1.95-2.75	10	8	3 $\frac{1}{2}$	9	3
A-3 Triple Conductor	51	0-3300	0-1.94	9	7	5	7	1 $\frac{3}{4}$
	52	0-3300	1.95-2.75	10 $\frac{1}{4}$	8	6	16	5
			Flat Type					
	56	0-3300	0-1.75	9 $\frac{1}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{2}$	6	2
	*57	0-3300	1.76-2.75	15	11 $\frac{3}{4}$	4 $\frac{1}{2}$	32	5
A-4 Quadruple Conductor	76	0-3300	0-2.19	9 $\frac{1}{2}$	7	5 $\frac{1}{2}$	9	2 $\frac{1}{2}$
	77	0-3300	2.20-2.75	9 $\frac{3}{4}$	8	5 $\frac{3}{4}$	15	5 $\frac{1}{2}$
			Flat Type					
	81	0-3300	Up to 1.90	11 $\frac{1}{4}$	10 $\frac{1}{2}$	3	15	3 $\frac{1}{2}$
	82	0-3300	1.91-2.75	18 $\frac{1}{4}$	15 $\frac{1}{4}$	5	40	7

\*Pipe connections can be supplied on these terminals.

No. 22 C. L. terminal compound is recommended for all terminals.

Prices Quoted Upon Application



## CABLE TERMINALS

## TYPE A

FOR INSIDE SERVICE

3301-13200 VOLTS



Type A-1, Single Conductor



Type A-3 Flat

Type	No.	Normal Working Voltage	Diameter Over Sheath Inches	APPROX. OVER ALL DIMENS. OF TERMINAL, IN.			Approx. Ship. Wt., Lbs.	Approx. Pounds of Compound to Fill
A-1 Single Conductor	11	3301-13200	Up-1.25	11 1/4	5 1/2	4	6	1
	12	3301-13200	1.26-1.75	12	6 1/2	5	10	2
	13	3301-13200	1.76-2.50	12 1/2	7	5 1/2	14	3
A-2 Double Conductor	36	3301-13200	Up-2.75	14 3/4	8	3 1/2	13	2 3/4
	37	3301-13200	2.76-3.30	15	9 1/2	4 1/2	16	4
	61	3301-13200	Up-2.75	14 1/4	8	6	17	5
A-3 Triple Conductor	62	3301-13200	2.76-3.30	15 1/2	9 1/2	7 1/2	25	7
	Flat Type							
	*66	3301-13200	Up-2.75	18 3/4	11 3/4	4 1/4	36	5 1/2
A-4 Quadruple Conductor	*67	3301-13200	2.76-3.30	22	14 1/4	5	54	12
	86	3301-13200	Up-3.00	14 1/4	8	6 1/4	19	5 1/2
	Flat Type							
	*91	3301-13200	Up-3.00	21 3/4	15	5	48	9

\*Pipe connections can be supplied on these terminals.

No. 22 C. L. terminal compound is recommended for all terminals.

Prices Quoted upon Application

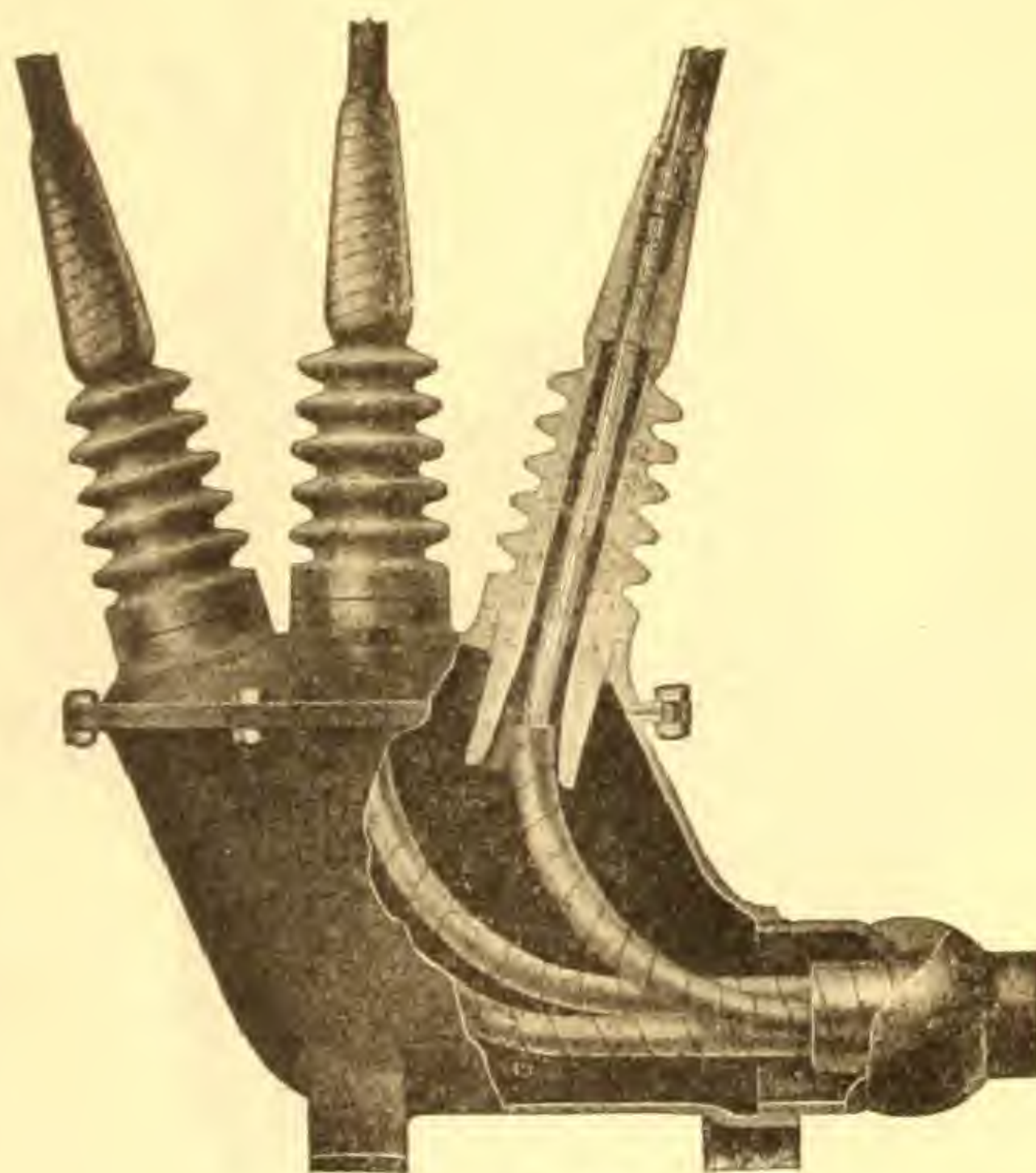


## CABLE TERMINALS

### TYPE A, PIPE-SHAPED

#### FOR INSIDE SERVICE

This terminal is made up for use with all sizes of triple conductor cables. Its peculiar pipe shape allows it to be used where a cable runs horizontally and there is insufficient room for making a vertical bend.



Type A-3  
3301-13200 Volts

#### 0-3300 VOLTS

Type	No.	Normal Working Voltage	Diam. Over Sheath Inches	APPROXIMATE OVER ALL DIMENSIONS OF TERMINAL INCHES			Approx. Shipping Wt., lbs	Approx. Pounds of Compound to Fill
				Height	Width	Depth		
A-3 Triple Conductor	*71	0-3300	0-1.75	8 $\frac{3}{4}$	9	2 $\frac{5}{8}$	10	2 $\frac{1}{2}$
	*72	0-3300	1.76-2.75	11 $\frac{1}{2}$	15	5 $\frac{3}{4}$	30	7

#### 3301-13200 VOLTS

Type	No.	Normal Working Voltage	Diam. Over Sheath Inches	APPROXIMATE OVER ALL DIMENSIONS OF TERMINAL INCHES			Approx. Shipping Wt., lbs	Approx. Pounds of Compound to Fill
				Height	Width	Depth		
A-3 Triple Conductor	*73	3301-13200	0-2.75	16	15	5 $\frac{3}{4}$	33	7

\*Pipe connections can be supplied on these terminals.

No. 22 C. L. terminal compound is recommended for all terminals.

Prices Quoted upon Application



## CABLE TERMINALS

## TYPE C

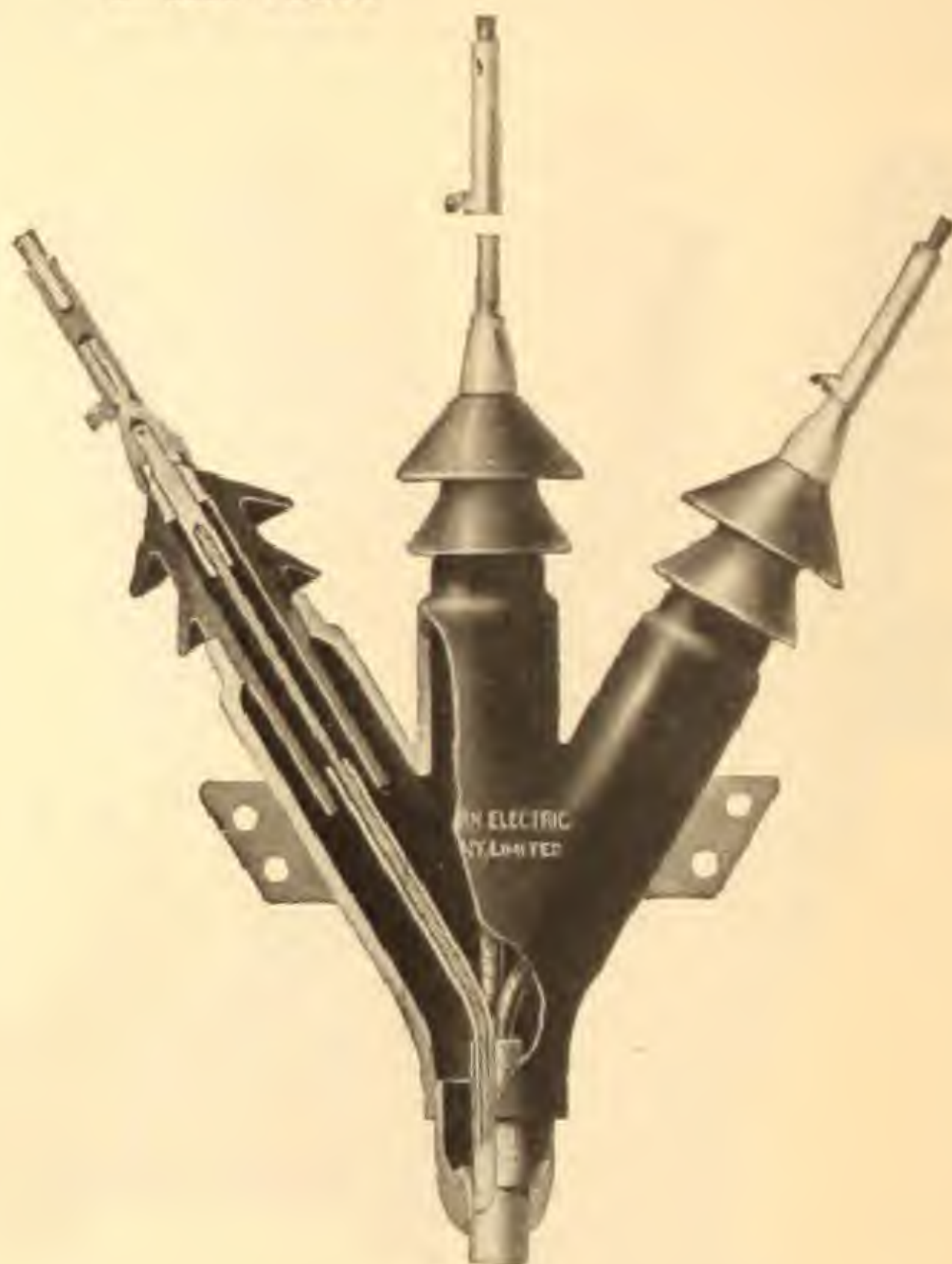
## FOR OUTSIDE SERVICE

Made for two ranges of voltage, 0-6600 and 6601-13200 volts, for all sizes of single, double, triple and quadruple conductor lead-covered cables. The terminals consist of a metal casing in which are screwed insulators equipped with necessary watertight copper parts. All sizes of outdoor terminals possess the advantage of a disconnecting feature by means of which the circuit can be readily opened or closed.

## 0-6600 VOLTS



Type C-1



Type C-3

Type	No.	Normal Working Voltage	Size of Conductor A. W. G. or C. M.	Max. Diam. Over Sheath Inches	APPROX. OVER ALL DIMENSIONS OF TERMINAL, IN.	Approx. Ship. Wt. Lbs.	Approx. Pounds of Compound to Fill
C-1 Single Conductor	201	0-6600	Up to 00	1.40	18 5 1/4 4 1/2	9	1 1/4
	202	0-6600	000-300000	1.75	19 5 1/4 4 1/2	12	1 1/4
	203	0-6600	350000-600000	2.00	22 1/2 7 7	17	2 1/2
	204	0-6600	650000-1000000	2.50	28 7 7	20	2 1/2
C-2 Double Conductor	*226	0-6600	Up to 00	2.13	23 15 5 1/2	37	3 1/2
	*227	0-6600	000-300000	2.30	24 16 5 1/2	42	3 1/2
	*228	0-6600	350000-600000	2.90	29 23 7	62	8
C-3 Triple Conductor	*251	0-6600	Up to 00	2.25	27 22 1/2 5 1/2	52	6
	*252	0-6600	000-300000	2.45	28 24 5 1/2	56	6
	*253	0-6600	350000-600000	3.00	36 34 9	110	18
C-4 Quadruple Conductor	*276	0-6600	14 to 00	2.50	32 28 6 1/2	93	15
	*277	0-6600	000-300000	2.75	33 29 6 1/2	96	15

Where conductors are 350000 C. M. and larger, insulators are as shown on the following page.

Disconnecting features for cables up to No. 00 A. W. G. are as shown on this page.

Disconnecting features for cables larger than No. 00 A. W. G. are as shown on the following page.

No. 22 C.L. terminal compound is recommended for all terminals.

\*Pipe connections can be supplied on these terminals

Prices Quoted upon Application

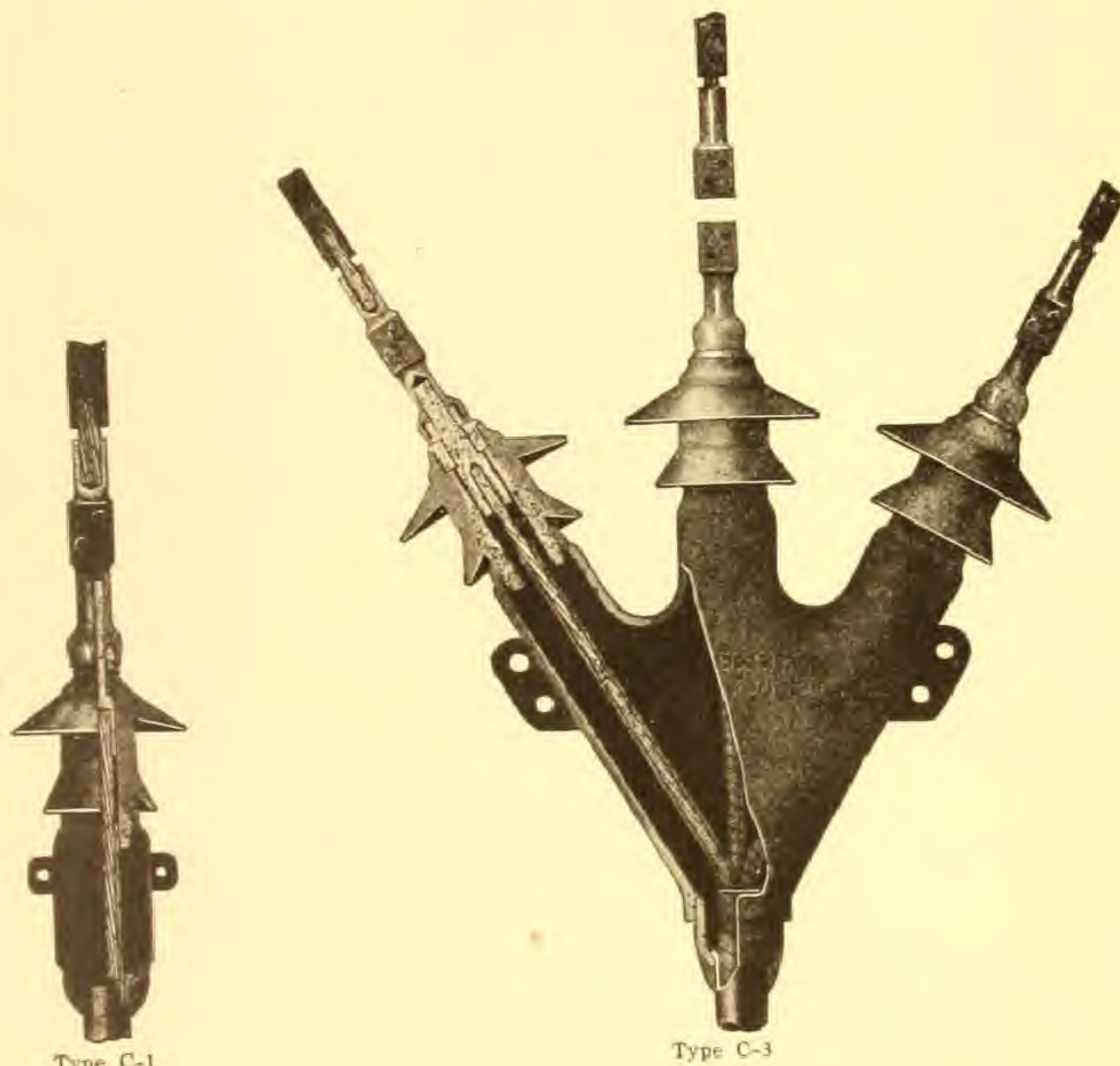


## CABLE TERMINALS

### TYPE C

FOR OUTSIDE SERVICE

6601-13200 VOLTS



Type C-1

Type C-3

Type	No	Normal Working Voltage	Size of Conductor A. W. G. or C. M.	Max. Diam. Over Sheath Inches	APPROX. OVER ALL DIMENSIONS OF TERMINAL, IN.	Approx. Ship. Wt., Lbs.	Approx. Pounds of Compound to Fill
C-1 Single Conductor	211	6601-13200	14-00	1.75	20	7	25
	212	6601-13200	000-300000	2.00	21	7	27
	213	6601-13200	350000-600000	2.25	22½	7	29
	214	6601-13200	650000-1000000	2.50	28	7	30
C-2 Double Conductor	*236	6601-13200	14-00	2.90	28	21	58
	*237	6601-13200	000-300000	2.90	29	22	59
C-3 Triple Conductor	*261	6601-13200	14-00	3.00	26	31	9
	*262	6601-13200	000-300000	3.00	27	32	9

Disconnecting features for cables up to No. 00 A.W.G. are as shown on the preceding page.

Disconnecting features for cables larger than No. 00 A.W.G. are as shown on this page.

No. 22 C.L. terminal compound is recommended with all terminals.

\*Pipe connections can be supplied for these terminals.

Prices Quoted upon Application



## INSTRUCTIONS FOR INSTALLING CABLE TERMINALS

**IMPORTANT.**—In installing cable terminals it is essential that both the cable and terminals be perfectly free from moisture, dirt or other foreign material.

## INSIDE TERMINALS, TYPE A

See illustrations on pages 67, 68 and 69.

1.—Cut away with a hacksaw a portion of the tapered base to enlarge the opening so that it will fit over the cable sheath.

2.—With the terminal in its final location, cut the lead sheath so that it projects about one-half an inch into the terminal. Cut the conductors so that the bottom end of the connectors will be about one and one-half inches above the insulating bushing shown in the illustration.

3.—On multiple conductor cables, cut off the insulation belt and jute to a point about one inch above the end of the lead sheath. The insulation on individual conductors should enter the insulating bushing by about one inch when finally connected.

4.—Round off or bell out the lead sheath as shown in the illustrations, taking care not to injure the insulation. This is the point at which static discharges are likely to occur.

5.—Push the individual conductors through their respective bushings; then make a wiped joint between the wiping portion of the base and the lead sheath.

6.—Fill the casing with No. 22 C. L. terminal compound, previously heated to 275° to 300° Fahrenheit. After the compound has cooled, add more to make up for contraction during cooling. Finally, the compound should be level with the top of the bushing.

7.—Insulate the connectors and exposed conductors with tape as shown in the illustration.

## OUTSIDE TERMINALS, TYPE C

See illustrations on pages 70 and 71.

Perform operations, 1, 2, and 3 as for Type A terminals, except that the conductors and insulation should be cut away to the dimensions given in the table below.

Volts	Conductors	End of Sheath to Extreme End of Conductor, In.	Length of Conductor Bared, In.	Length of Insulating Belt Beyond End of Sheath, In.
0-6600	Single	9 $\frac{1}{4}$	6 $\frac{1}{2}$	No belt
0-6600	Double	15	6 $\frac{1}{2}$	4
0-6600	Triple	17 $\frac{1}{2}$	6 $\frac{1}{2}$	4
0-6600	Quadruple	25	6 $\frac{1}{2}$	5
6601-13200	Single	10 $\frac{3}{4}$	4	No belt
6601-13200	Double	19	4	3
6601-13200	Triple	22	4 $\frac{1}{2}$	3

4.—Round off or bell out the lead sheath, as shown in the illustrations taking care not to injure the insulation. This is the point at which static discharges are likely to occur.

5.—Remove the bushings from the terminal casing and place it over the end of the cable, bringing the individual conductors through their respective holes in the top of the casing. Tin the end of each conductor and sweat it into the detail which is hollowed out to receive it.

**Note.**—In multiple conductor cables the length of each conductor from the end of the lead sheath to the end of detail should be the same. Check this by bunching the conductors after sweating on the various tops. Push the conductors through their respective insulators and tighten on the nut at the top.

6.—Make a wiped joint between the wiping portion and the lead sheath, then fill with sealing compound as described in (6) for Type A Terminals.

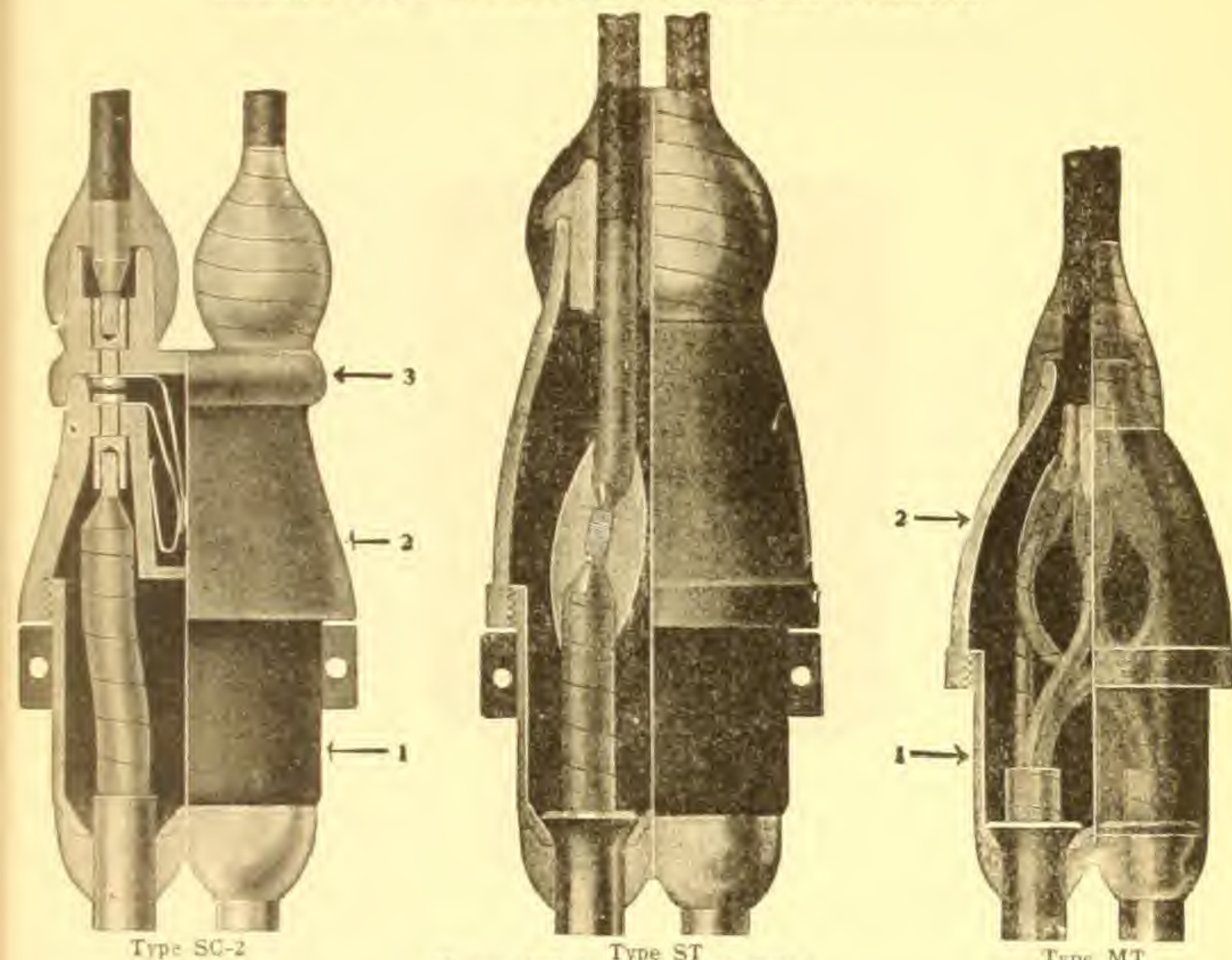
## TERMINALS ON ARMORED CABLES

Armored cables are connected to terminals in the same manner as ordinary lead-covered cables, except that the armoring and jute are first unwound from the end to a sufficient distance so as not to interfere with the work of installing the terminal. After completing connections the armoring is replaced right up to the wiped joint and there bound down with galvanized wire which should be sweated to both armor and terminal.



# CABLE TERMINALS

FOR STREET LIGHTING OR SIMILAR SERVICE  
COMBINATION TERMINALS AND SERIES CUTOUTS



Type SC-2

Type ST

Type MT

Types SC-1, SC-2 and SC-3

Cutouts for series arc and incandescent street lighting circuits up to 7000 volts, particularly adapted for use inside post pedestals. The cutout consists essentially of three parts, (1) a brass base in the form of a wiping sleeve, (2) an insulating casing, (3) a cover of insulating materials. The lower portion forms a pothead for a lead covered cable.

OPERATION.— When a lamp fails the continuity of the service is maintained by the fusing of a film cutout between the metal parts of the cover. To make repairs the cover is removed, continuity being maintained by the springing together of phosphor bronze parts in the casing. Type SC-1 is adapted for one double conductor cable, Type SC-2 for two single conductor cables and Type SC-3 for one double conductor and two single conductor cables.

Type	No.	APPROXIMATE OVER ALL DIMENSIONS, IN.	Approx. Shipping Wt., Lbs.	Approx. Pounds of Compound to Fill
SC-1	1100	Height $7\frac{1}{2}$ Width $4\frac{1}{4}$ Depth $4\frac{1}{4}$	4	1
SC-2	1101	Height $7\frac{1}{2}$ Width $4\frac{1}{4}$ Depth $4\frac{1}{4}$	4	1
SC-3	1102	Height $7\frac{1}{2}$ Width $4\frac{1}{2}$ Depth $4\frac{3}{4}$	5	$1\frac{1}{2}$

Types ST-1, ST-2 and ST-3

Designed for similar service to the Type SC terminals where automatic cutout and disconnecting feature are not required. The terminal consists of (1) a brass base in the form of a wiping sleeve, (2) a metal casing, (3) an insulating bushing.

Type	No.	Height	Width	Depth	Approx. Shipping Wt., Lbs.	Approx. Pounds of Compound to Fill
ST-1	1200	8	$4\frac{1}{4}$	$4\frac{1}{2}$	7	$1\frac{1}{2}$
ST-2	1201	8	$4\frac{1}{4}$	$4\frac{1}{2}$	7	$1\frac{1}{2}$
ST-3	1202	8	$4\frac{1}{2}$	$4\frac{3}{4}$	8	2

Type MT

For multiple arc and incandescent street lighting circuits up to 600 volts. The terminal consists of two parts, (1) a brass base in the form of a wiping sleeve, (2) a cast iron casing. The base and the casing are screwed together making a perfectly watertight connection.

Type	No.	Diam. Over Sheath Inches	APPROX. OVER ALL DIMENSIONS, IN.	Approx. Shipping Wt., Lbs.	Approx. Pounds of Compound to Fill
MT	1001	Up to 875	Height 6 Width $3\frac{1}{2}$ Depth $3\frac{1}{2}$	7	1
MT	1002	875 to 1 25	Height 7 Width 4 Depth 4	10	$1\frac{1}{4}$

Bulletin No. 202 giving full information for installing the above terminals forwarded on application.

Prices Quoted upon Application

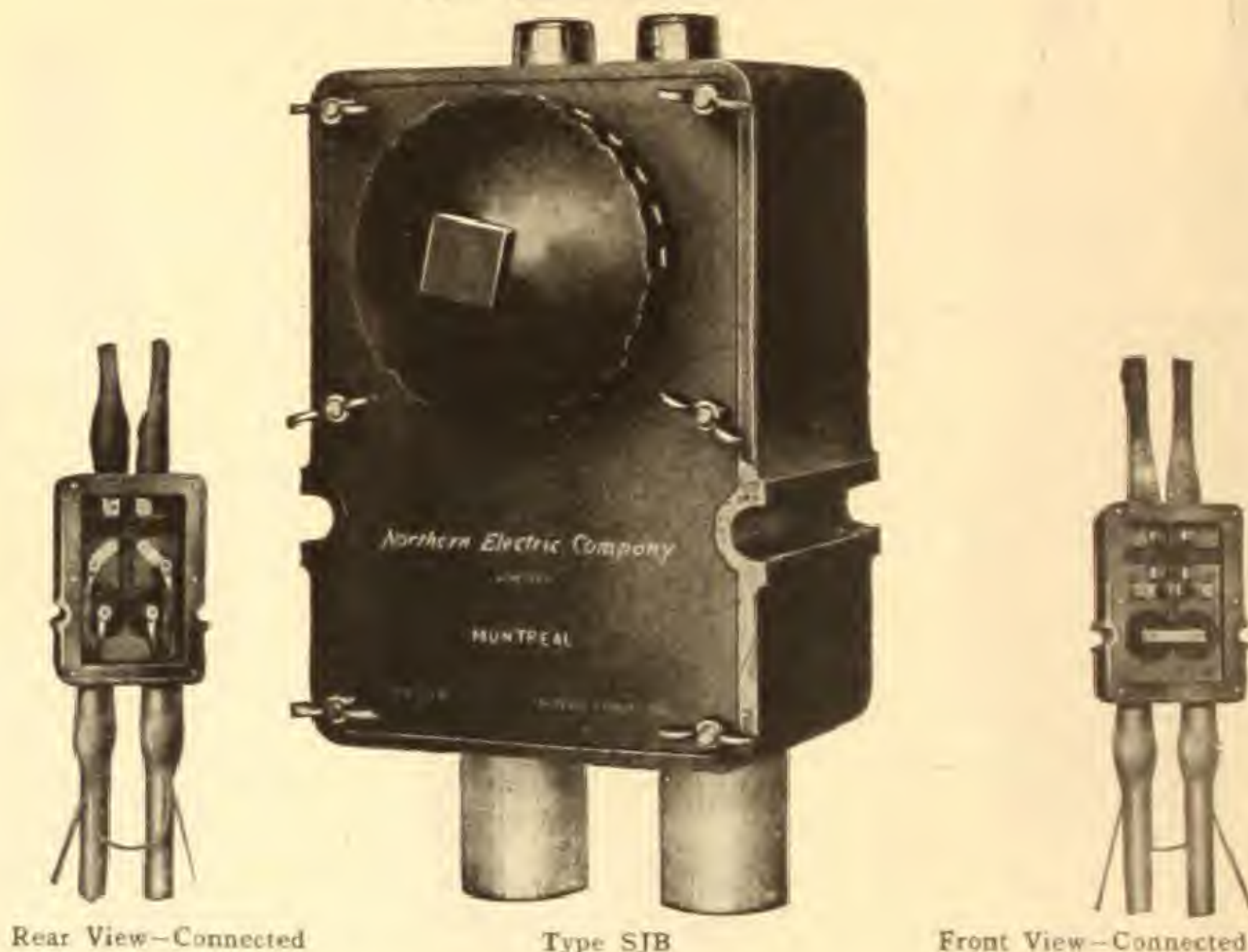


## CABLE TERMINALS

FOR STREET LIGHTING OR SIMILAR SERVICE

### COMBINATION TERMINALS AND SERIES JUNCTION

Type SJB Box Cutout



For use on series arc and incandescent street lighting circuits up to 7000 volts. Especially designed for operating on circuits where double conductor cable is employed. The cutout consists of a rectangular box moulded from insulating material having high dielectric properties and mechanical strength. It is divided into a rear and front compartment by a separating wall of the same material which is moulded in one piece with the box. The front compartment is easily accessible and contains the contact springs, etc., which form the operating parts of the cutout. The rear compartment is the cable sealing chamber. Into this chamber the conductors from the lead covered cable and from the leads to the lamp are brought for connection through the divided wall to the details in front. The special features of this cutout are as follows:

- 1.—Individual lamps isolated for the purpose of inspecting and repairing without interfering with the remainder of the circuit.
- 2.—The cable may be easily sectionalized for the purpose of testing and locating faults.
- 3.—Lamps may be transferred to a different circuit in case of a breakdown, since each leg of the cable is accessible at every junction box.

No. 22 C. L. terminal compound is recommended for filling the sealing chamber.

Bulletin No. 202 giving full information on the details of construction and method of installing these junction boxes will be furnished on request.

### METHODS OF CONNECTING CABLE SHEATH AND TERMINAL

Four methods of making connections between cable and terminal are in general use. They are:

- 1.—Wiped joint—This is similar to the well known plumber's joint.
- 2.—Taped joint—In this case the solder used in the wiped joint is replaced by layers of insulating tape.
- 3.—Stuffing Box joint—In this case packing is compressed by screwing the stuffing box on to a brass bushing which in turn is screwed into the bottom of the casing.
- 4.—Pipe connections—To make this joint a special pipe connector is supplied with the terminal. This connector is screwed to both the terminal and the pipe in which the cable runs.

Descriptive matter on how to make various joints will be found in Bulletin No. 202.

Prices Quoted upon Application



## INSULATING COMPOUND AND CONNECTORS



No. 22 Compound



Copper Cable Connectors

### No. 22 C. L. TERMINAL COMPOUND

A semi-solid insulating compound possessing high dielectric qualities. Used for filling all kinds of cable splices, terminals and junction boxes into which it is poured at a temperature of 275°-300° F.

Sold in 1 gallon cans. Weight of compound per gallon, 10 pounds. Shipping weight per can, 14 pounds.

### ONE INCH NORTHERN PAPER TAPE

For wrapping paper power cable splices. A manilla rope paper of the highest grade which has been dried under vacuum and impregnated with insulating compound.

Put up in convenient sized rolls 1 inch wide.

Sold in cans containing about 6 pounds of tape completely submerged in insulating compound. Shipping weight per can, 9 pounds.

### COPPER CABLE CONNECTORS

High conductivity tinned copper connectors of the same cross section as the cables they are designed to join. No sharp edges to cause electrostatic discharges.

When ordering state size of conductors and whether solid or stranded.

### LEAD SLEEVING

We carry in stock pure lead sleeving in the sizes more commonly required for splicing purposes. Lengths listed below are standard stock lengths, but shorter sections can be furnished when required at slight additional expense.

Inside Diam. In.	Thickness Inches	LENGTH		Approx. Wt., Lbs. per Length	Inside Diam. In.	Thickness Inches	LENGTH		Approx. Wt., Lbs. per Length
		Ft.	In.				Ft.	In.	
1	$\frac{3}{32}$	7	6	11 $\frac{1}{2}$	2 $\frac{1}{4}$	$\frac{3}{32}$	7	6	24 $\frac{1}{4}$
1 $\frac{1}{4}$	$\frac{3}{32}$	7	6	14 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{1}{8}$	7	6	36 $\frac{3}{4}$
1 $\frac{1}{2}$	$\frac{3}{32}$	7	6	16 $\frac{3}{4}$	3	$\frac{1}{8}$	8	..	47 $\frac{1}{2}$
1 $\frac{3}{4}$	$\frac{3}{32}$	7	6	19 $\frac{1}{2}$	3 $\frac{1}{2}$	$\frac{1}{8}$	8	..	55 $\frac{1}{2}$
2	$\frac{3}{32}$	7	6	22	4	$\frac{1}{8}$	8	..	63 $\frac{1}{2}$

Prices Quoted upon Application



## INSTALLATION OF UNDERGROUND CABLES

The Northern Electric Company, Limited, maintains a fully equipped Installation Department. We are prepared to undertake complete installations or furnish expert supervisors for installations made by the customer. All cables manufactured by the company are subjected to rigid tests and careful inspection before leaving the factory. We are, therefore, able to guarantee our cable as it leaves the factory but it is obvious that we cannot extend this guarantee to installed cable unless the installation is done by our own Installation Department. The best cable manufactured can be ruined by handling and installing entrusted to inexperienced workmen.

We can at all times give prices on installations of any magnitude but at the same time are prepared to undertake small jobs, such as installing potheads or locating and repairing trouble.

If the customer is contemplating underground installation of lead covered cables in ducts or of armored cable straight in the ground, he will find much interesting information on the subject in Bulletin No. 202 (Cable Terminals and Accessories) which will be promptly mailed on request.

### MANUFACTURERS OF

Aluminum Wire	Paper Power Cable
Annunciator Wire	Paper Telephone Cable
Armature Wire	Rubber Covered Wire
Armored Cable	Rubber Insulated Cable
Asbestos Covered Wire	Signal Wire and Cable
Automobile Wire	Slow-burning Weatherproof Wire
Bare Copper Wire and Cable	Slow-burning Wire
Bell Cord	Switchboard Cable
Brass Wire	Switchboard Cords
Car Wire	Switchboard Wire
Control Cable	Telegraph Cable
Copper Clad Steel Wire	Telephone Cords
Elevator Cable	Telephone Wire
Fire Alarm Cable	Trolley Wire
Fixture Wire	Varnished Fabric Cable
Flameproof Wire and Cable	Weatherproof Copper Cable
Flexible Cords	Weatherproof Copper Wire
Lead Covered Cables	Weatherproof Iron Wire
Magnet Wire	Cable Terminals
Marine Wire and Cable	Junction Boxes
Military Wire	Splicing Materials
Office Wire	

All Classes of Cable Systems Installed.

*Northern Electric Company*  
LIMITED

### MONTREAL

Montreal	Toronto	Regina
Halifax	Hamilton	Calgary
Quebec	London	Edmonton
Ottawa	Windsor	Vancouver
	Winnipeg	



## CEDAR POLES



### OFFICIAL SPECIFICATIONS COVERING WESTERN RED CEDAR POLES

#### Standard Western Red Cedar Poles—Sizes 4-inch, 20-foot and Larger

All poles must be manufactured from live growing cedar timber, peeled, knots trimmed close and butts and tops sawed square. Poles may be 6 inches longer or 3 inches shorter than length specified. Minimum circumference measurement of tops as follows: 4-inch poles, 12 inches; 5-inch poles, 15 inches; 6-inch poles, 18½ inches; 7-inch poles, 22 inches; 8-inch poles, 25 inches; 9-inch poles, 28 inches; 10 inch-poles, 31 inches.

Knots are not a defect, if sound, trimmed smoothly and do not plainly impair the strength of the pole. Discoloration is not a defect. No poles shall contain sap rot, woodpecker holes, plugged holes or evidence of having been eaten by ants. Tops of poles must be free from rot. Butt rot in center, including small ring rot, shall not exceed 10 per cent of the area of the butt. Butt rot of a character which impairs the strength of the pole above the ground line is a defect. Sound cat faces are not a defect if no part of the cat face shows on the upper one-fifth of the length of the pole or within 2 feet above or 1 foot below the ground line. A sound dead or dry streak is not a defect if it does not cover more than 25 per cent of the surface of the pole at any one point. The tops of all poles shall have a minimum circumference measurement as shown above. The extreme butt of all poles shall have a minimum measurement as shown in table below. Poles having a decided swell or flare at the butt shall have a sufficiently larger measurement at butt to insure a reasonable measurement at the ground line. Short kinks are not permitted.

Reverse sweep and two-way sweep, meaning a sweep in two planes, is permitted, provided a straight line drawn from the center of pole at top to center of pole at ground line does not leave the pole at any point. One-way sweep is permitted provided it does not exceed maximum shown in table below. That part of the pole below the ground line not to be taken into consideration. Tightly stretch a tape line from point at the ground line on the side of the pole where the sweep is greatest to the upper surface at the top of the pole, and having so done, measure widest point from tape to surface of pole and if, for illustration, upon a 30-foot pole the widest point does not exceed 4 inches, this pole shall be accepted. The term Ground Line as used in these specifications shall mean a point on the pole a distance of 4 feet on 20-foot, 5 feet on 25-foot and 30-foot, and 6 feet on 35-foot and longer poles from the extreme butt.

Poles 35 feet and longer shall have a minimum circumference measurement at extreme butt as follows:

Length Feet	7-inch Top In.	8-inch Top In.	9-inch Top In.	10-inch Top In.	Length Feet	7-inch Top In.	8-inch Top In.	9-inch Top In.	10-inch Top In.
35	33	36	39	42	65	..	45	48	51
40	34	37	40	44	70	..	47	50	53
45	..	39	42	45	75	..	48	51	54
50	..	41	44	47	80	..	50	53	56
55	..	42	45	48	85	..	51	54	57
60	..	44	47	50	90	..	52	55	58

Length of Pole Feet	Maximum Sweep Between Top and Ground Line Inches	Length of Pole Feet	Maximum Sweep Between Top and Ground Line Inches	Length of Pole Feet	Maximum Sweep Between Top and Ground Line Inches	Length of Pole Feet	Maximum Sweep Between Top and Ground Line Inches
20	3	40	5½	60	9	80	12
25	3	45	6	65	10	85	13
30	4	50	7	70	10½	90	14
35	5	55	8	75	11	..	..



## CEDAR POLES



## OFFICIAL SPECIFICATIONS OF THE NORTHERN WHITE CEDAR ASSOCIATION

## Governing the Manufacture and Grading of Northern White Cedar Poles

All poles shall have been cut from live, green growing Northern White Cedar timber. The test of live timber is to whittle a shaving from the sapwood. If the sap is white, the timber was live when cut, no matter how discolored the piece may be on the outside. No pole shall contain both the maximum crook and the maximum butt rot. Not more than 10 per cent of the number of pieces of any lot or shipment shall contain the maximum crook or butt rot. If not to exceed 2 per cent of the pieces in any lot or shipment are below the minimum size, and there is an equal number of pieces as large as the minimum of the next larger size, the shipment shall be considered as conforming to these specifications so far as size is concerned.

Minimum circumference of tops for lengths 16 feet and over as follows: If poles are seasoned, then 4-inch poles must measure 12 inches; 5-inch poles, 15 inches; 6-inch poles, 18½ inches; 7-inch poles, 22 inches; 8-inch poles, 24 inches; 9-inch poles, 27 inches. If poles are green and water-soaked, then 4-inch poles must measure 12½ inches; 5-inch poles, 16 inches; 6-inch poles 19½ inches; 7-inch poles, 23 inches; 8-inch poles, 25 inches; 9-inch poles, 28 inches.

Any pole 20 feet and longer may be short of its specified length one-half an inch for each 5 feet of its length, or it may be 6 inches longer than its specified length. All poles shall be peeled, and knots closely trimmed. Knots are permitted if sound, smoothly trimmed and do not plainly impair the strength of the pole. Short kinks are not permitted. Sap or skid rot is not permitted. Poles 16 feet and longer having minimum top sizes of the dimensions required, must have sound tops. Poles 16 feet and longer having tops 1 inch or more in circumference above the minimum top sizes, may have one pipe rot not more than one-half inch in diameter. Butt and ring rot combined shall not exceed 10 per cent of the area of the butt. Winding twist permitted unless very unsightly and exaggerated. Cat faces permitted if sound, and if their distance from the top of the pole is not less than 20 per cent of the length of the pole in 30-foot and shorter poles, and 25 per cent on 35-foot and longer poles. Discoloration is not considered a defect under these specifications. For poles 16 feet and longer sweep is as follows: Below ground line, sweep not to exceed diameter of butt; above ground line, reverse sweep, and two-way sweep, meaning a sweep in two planes allowed providing line drawn from center of pole at top to center of pole at ground line does not leave the pole at any point. One-way sweep allowed not to exceed maximum shown in table below. The meaning of the term ground line as used in these specifications shall be as shown in the table below.

Length Feet	MAXIMUM SWEEP		Length Feet	MAXIMUM SWEEP	
	Top to Ground Line Inches	Ground Line Feet		Top to Ground Line Inches	Ground Line Feet
20	4	4	40	8	6
25	5	6	45	9	6
30	6	6	50	10	6
35	7	6	55	11	6



## DEPTH OF POLE SETTING

In sandy or swamp ground, oil barrels or casks set in the ground will materially assist in securing substantial pole foundations. The following specifications are recommended for the depth in feet of holes:

Solid Ground			Soft Ground			Solid Rock
Line (Height)	Poles (Depth)	Corners	Line	Corners		
22	5	5	5	5	3	
25	5	5½	5½	6	3	
30	5	5½	6	6½	3½	
35	6	6½	6½	7	4	
40	6½	7	7	7½	4	
45	6½	7	7	7½	4½	
50	7	7½	7½	8	4½	
55	7½	8	8	8½	5	
60	8	8½	8½	9	5½	
65	8½	9	9	9½	5½	

Guy stubs should be set not less than 7 feet in any soil except solid rock.

## CEDAR POLES FOR ELECTRIC LIGHT WORK

Height Feet	Size Top Inches	Average Wt., Lbs. Each	No. of Poles to a Car	Height Feet	Size Top Inches	Average Wt., Lbs. Each	No. of Poles to a Car
25	5	200	150	35	7	650	90
25	5½	225	130	40	6	800	80
25	6	250	100	40	7	900	75
28	7	400	80	45	6	900	70
30	5	300	110	45	7	1000	65
30	6	350	90	50	6	1200	55
30	7	420	75	55	6	1400	45
35	6	550	100				

## WIND PRESSURES

Velocity	37	53	65	75	83	91	105	119	130
Pounds per Square Foot	5	10	15	20	25	30	40	50	60

The pressures given above are such as would be exerted against a flat surface set perpendicularly to the direction of the wind. For a cylindrical surface like a pole or wire, the effective pressure is two-thirds of what it would be for a square surface of the same area as the cylinder. It is considered that an allowance of from 20 to 30 pounds per square foot of area for pole lines is ample. The above table was calculated from Professor Langley's formula,  $P = .0036V^2$ , in which  $P$  is the pressure per square foot of surface in pounds, and  $V$  is the velocity of the wind. *in M.P.H.*

## GENERAL CONSTRUCTION RULES

**SIZE OF HOLES.**—The holes should be large enough to permit the free entrance of the poles, and should be full size at the bottom so as to admit of the use of tampers.

**TAMPING POLE HOLES.**—All pole holes, except those in very hard gravel or rock formations, should be tamped so thoroughly that the necessity for hauling away excess dirt is obviated. Four or five energetic tampers and one slow shoveler will accomplish this. Great care should be taken that the shoveling in is not done so fast that the earth cannot be properly tamped. This is frequently the cause of much trouble; and while it expedites the erection of the poles, it causes much loss of time and money later on account of the poles giving way when placed under strain.

**PROTECTING POLES.**—Where corner poles or other poles are exposed to injury from whittling, pole butt should be well painted and heavily sanded. If this is not sufficient in any special case, the pole butt should be wound with No. 10 galvanized wire, spaced ½ inch apart, painted and sanded.

**PAINTING POLES.**—The top and gaens of all poles should be painted with one or more coats of approved paint. All poles which are protected by strain plates or shims from the cutting of messengers or guys, should be painted with one or more coats of approved paint on the space occupied by the strain plate.

**FACING ARMS (CITY CONSTRUCTION)**—At long spans the cross arms should be placed on the side of the poles away from the long spans. Arms on poles should face the originating source of the lead, or face to face, depending on the general condition, except corner pole; then it should face the corner. At the terminals of a lead, the last two poles should face away from the originating source. On corners, arms should face the point of intersection of curb lines, thus facing each other. First arm each side of the corner should ordinarily face the corner. Where lead changes side of street, arms should face each other as in corner work. At railroad crossings, arms should face away from the railroad.

**ON CURVES.**—Arms each side of center of curve should face the center of curve.

**LOCATION OF POLES AND ANCHORAGES.**—Special attention should be given to location of poles, where the ground washes badly, where there are cuts or excavations, and along the banks of creeks or streams. Do not locate poles along the edges of cuts or embankments.



## GENERAL CONSTRUCTION RULES

(Continued)

**SPACING POLES.**— In locating pole line, if it becomes necessary to either reduce or lengthen distance between poles on account of obstacles, objections of property holders, etc., the preference should be for the shorter spans.

**LOCATION OF POLES AT STREET CROSSINGS.**— In leading away from the originating end of the line when a cross street is reached, pole should not be located on the corners, but should be spaced to fall on the property line. In this connection, alleys may be regarded as street crossings.

**RAKING CORNER POLES.**— In city construction, where buildings are taller than poles, corner poles should be raked the width of the pole at the top. At all other points where the perpendicular lines of adjacent buildings do not offer a contrast, the corner poles should be raked from 12 to 18 inches, depending upon angle at the corner, load, etc. In no case should a pole be set vertical on a corner. Poles should be raked at time of setting. Three or four poles at least on each side of the corner should be raked, each in gradually decreasing proportion, until the vertical line in the straight line is resumed.

**ON STREETS.**— Poles and stubs on streets should be set inside of and as near the curb line as possible.

**IN ALLEYS.**— Poles in alleys should be set as close as possible to the side lines of the alleys.

**ON PROPERTY LINES.**— Poles on streets should be located on or near property lines.

**DISTRIBUTION OF POLES.**— In distributing the poles, care should be taken to select the heaviest poles for corners and terminals and to place the straightest and best-looking poles on streets and in front of residences.

**POLE FITTING AND SETTING — TRIMMING.**— All poles that are rough in appearance should be smoothed, and knots should be trimmed close. Top of pole should be leveled with one cut of saw at right angles to length of pole, and edge should be beveled  $\frac{3}{4}$  of an inch with a draw-knife.

**FRAMING POLES.**— Poles should be raised at the top and placed in a framing buck so that the heaviest sag or curve will be nearest the ground. If the pole be crooked or badly shaped it should be turned with cant hooks until the best side for framing is brought uppermost and the pole securely chocked. In this position it should first be roofed. Seven inches should be measured from the top of the pole, and this point should be the center of the top gage. The succeeding gages should be spaced 18 inches on centers. Gages should be leveled with a straight edge or sighting sticks.

To bore the holes for cross arm bolts, a line should be stretched from the center of top of the pole to the center of the pole at ground line and the bolt hole centers laid off from this line. One-half inch holes for pole steps should be bored in pole at right angles to line or in line with cross arms, beginning 18 inches from the top of the pole and every alternate 18 inches on opposite sides of pole until a point which will be 7 feet 6 inches above ground is reached. Holes for steps to be bored 2 inches deep, steps driven and screwed with wrench to a depth of  $4\frac{1}{2}$  inches.

**NOTE.**— In alleys, poles stepped in line with alley as high as 12 to 15 feet; then turn at right angles to alley and continue to the top. This is to prevent liability of danger to top wagons in narrow alleys.

**BUTTING POLES.**— Every pole should be squared across the bottom before setting. This should be done with a crosscut saw, and not with an ax.

**BRACES AND CROSS-ARM FITTING.**— Arms should be sighted and leveled at right angles to pole length, and not parallel with the ground. This includes all corner poles.

A spirit level should not be used for leveling arms.

**CANTING ARMS ON CORNERS.**— When a lead makes a double corner or changes from one side of the street to the other, the last arm should set at right angles to the line of direction leading to the corner, and the first arm leading away should set at right angles to the line of direction leading away from the corner.

If the change of direction forms an angle of less than forty-five degrees, one or both corner arms may be canted slightly to secure the greatest space between lines. This should not be permissible where the angle is forty-five degrees or over.

**CANTING ARMS ON SINGLE-POLE CORNERS.**— The arm should set in a line that will divide in half the angle formed by the two lines of direction of the route.

On curves the inside of the arms should point to the common center of a circle of which the lead curve forms the circumference.

Single pole corners are not desirable and should not be used when the pull is over 20 feet, unless it is an unavoidable case.

**GUY STUBS.**— A guy stub in no case should be smaller in diameter at butt or top than the pole it supports, and should be as straight as possible on account of the tendency to buckle. A stub at the head of heavy lines should be as massive as possible.

A guy stub should be raked to position before filling hole, and should not be set straight and raked with the anchor guys. In the proportion that stub is curved or buckled its strength is decreased. No stub should be raked less than 24 inches.

Guy stubs holding a strain greater than a one-arm lead should measure 12 inches across the top or more, if procurable.



# CROSS-ARMS



Cross-arms are made of Norway (or red) pine and long leaf yellow pine. Douglas fir is also used extensively, owing to its clear, straight grain quality and freedom from defects. Orders should state the kind of wood required and whether arms are to be unpainted or painted (red or gray) or treated with carbolineum or other preservative compound.

Weight:  $2\frac{3}{4} \times 3\frac{3}{4}$  arms weigh approximately  $2\frac{1}{2}$  pounds per foot.

$3 \times 4$  arms weigh approximately  $3\frac{1}{2}$  pounds per foot.

$3\frac{1}{4} \times 4\frac{1}{4}$  arms weigh approximately 4 pounds per foot.

$3\frac{3}{4} \times 4\frac{3}{4}$  arms weigh approximately 6 pounds per foot.

Special sizes made up to specifications.

## Two-Pin

Trade No.	A		B	C	D		E	F	G	H	J
	Ft.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
110196	2	—	2 $\frac{3}{4}$	3 $\frac{3}{4}$	8	—	—	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	15
110197	3	—	2 $\frac{3}{4}$	3 $\frac{3}{4}$	13	—	—	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	15
110198	3	—	2 $\frac{3}{4}$	3 $\frac{3}{4}$	14	—	—	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	12
110199	2	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	8	—	—	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	—
110200	2	8	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	—	—	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	10
110201	2	10	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	—	—	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	—
110202	3	4	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	—	—	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110203	5	2	3 $\frac{1}{4}$	4 $\frac{1}{4}$	24	—	—	7	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19 $\frac{1}{2}$
110204	6	6	3 $\frac{1}{4}$	4 $\frac{1}{4}$	35	—	—	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110205	5	10	3 $\frac{1}{4}$	4 $\frac{1}{4}$	30	—	—	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110206	6	10	3 $\frac{1}{4}$	4 $\frac{1}{4}$	36	—	—	5	2	5 $\frac{3}{8}$	22

## Four-Pin

Trade No.	A		B	C	D	E	F	G	H	J
	Ft.	In.	In.	In.	In.	In.	In.	In.	In.	In.
110207	3	6	2 $\frac{3}{4}$	3 $\frac{3}{4}$	8	10	3	1 $\frac{3}{4}$	5 $\frac{3}{8}$	13
110208	4	—	3	4	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	14
110209	4	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	14
110210	5	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	10	14	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110211	5	2	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	15	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19
110212	5	4	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	15	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19 $\frac{1}{2}$
110213	5	6	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	13	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19 $\frac{1}{2}$
110214	5	6	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	13	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110215	5	8	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	13	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110216	6	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	15	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19
110217	7	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	24	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110218	8	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	18	24	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19 $\frac{1}{2}$
110219	8	4	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	30	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110220	9	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	20	30	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	23
110221	9	10	3 $\frac{1}{4}$	4 $\frac{1}{4}$	18	36	5	2	5 $\frac{3}{8}$	22

## Six-Pin

Trade No.	A		B	C	D	E	F	G	H	J
	Ft.	In.	In.	In.	In.	In.	In.	In.	In.	In.
110222	5	2	2 $\frac{3}{4}$	3 $\frac{3}{4}$	8	10	3	1 $\frac{3}{4}$	5 $\frac{3}{8}$	16
110223	6	—	3	4	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110224	7	—	3	4	14	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110225	6	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110226	7	8	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	13	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110227	7	10	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	13	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110228	8	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	16	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110229	8	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	15	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19 $\frac{1}{2}$
110230	8	2	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	16	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20 $\frac{1}{2}$
110231	8	6	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	15	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19
110232	9	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	12	18	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	21

## Eight-Pin

Trade No.	A		B	C	D	E	F	G	H	J
	Ft.	In.	In.	In.	In.	In.	In.	In.	In.	In.
110233	6	10	2 $\frac{3}{4}$	3 $\frac{3}{4}$	8	10	3	1 $\frac{3}{4}$	5 $\frac{3}{8}$	16
110234	8	—	3	4	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110235	9	—	3	4	14	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110236	8	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110237	9	10	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	13	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110238	9	10	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	13	5	1 $\frac{3}{4}$	5 $\frac{3}{8}$	20
110239	11	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	15	15	6	1 $\frac{3}{4}$	5 $\frac{3}{8}$	19

## Ten-Pin

Trade No.	A		B	C	D	E	F	G	H	J
	Ft.	In.	In.	In.	In.	In.	In.	In.	In.	In.
110240	8	6	2 $\frac{3}{4}$	3 $\frac{3}{4}$	8	10	3	1 $\frac{3}{4}$	5 $\frac{3}{8}$	22
110241	10	—	3	4	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18
110242	10	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	9	12	3	1 $\frac{3}{4}$	5 $\frac{3}{8}$	21
110243	10	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	22
110244	10	—	3 $\frac{1}{4}$	4 $\frac{1}{4}$	8	12	4	1 $\frac{3}{4}$	5 $\frac{3}{8}$	18

Prices on application.



## GALVANIZED WIRE

## GALVANIZED IRON TELEPHONE AND TELEGRAPH WIRE



Telegraph and telephone wires are made to specification and orders or inquires for prices should state the constant required, the quality of galvanizing, gauge, style and weight of bundles and other conditions to which wire must conform.

Nearly all specifications call for galvanizing of a quality to withstand the four one-minute immersion test. Trials of wire have shown that it is more heavily galvanized than this severe test requires.

All telegraph and telephone wire is galvanized as required and varies according to conductivity only, the higher the conductivity the better the wire.

Although there are many different degrees of electrical conductivity or resistance specified by Canadian users, these can be divided into four classes, as follows: 5700 to 6000 constant, 5500 to 5699 constant, 5300 to 5499 constant and 5000 to 5299 constant.

The constant is found by multiplying the resistance in ohms per mile by the weight per mile of wire.

Size B. W. G.	Diam. Mills	Weight, POUNDS Per 1000 Ft.	per Mile	Size B. W. G.	Diam. Mills	Weight, POUNDS per 1000 Ft.	per Mile
4	238	149	787	10	134	47	250
6	203	109	573	12	109	31	165
8	165	72	378	14	83	18	96
9	148	58	305	16	65	11	59

## GALVANIZED STEEL STRAND



Galvanized steel strand is used for signal and semaphore wires, guy wires on steel stacks and transmission towers, for guying poles on telegraph and telephone lines, suspending trolley wires, telephone and telegraph cables. The finished product consists of seven wires twisted into one strand, the single being drawn to BWG gauge and galvanized before twisting. Three grades, hard, soft and crucible can be supplied.

The galvanizing is smooth and the strand supplied is known as commercial galvanized or galvanized to stand four one-minute immersions. All strand is inspected before leaving works and is guaranteed to conform with all standard specifications. In ordering, special care should be taken to specify the kind wanted, size or length of reels or coils, also specify whether commercial galvanized or four-immersion galvanized is required.

Prices will be quoted on application and will depend on quantity required, grade of galvanizing size, and the way the strand is required to be packed for shipment.

Diam. In.	BWG No.	Weight per 1000 Ft. Pounds	APPROXIMATE BREAKING STRAIN, LBS.			Diam. In.	BWG No.	Weight per 1000 Ft. Pounds	APPROXIMATE BREAKING STRAIN, LBS.		
			Soft	Hard	Crucible				Soft	Hard	Crucible
1/2	7 1/2	564	10000	14700		7/32	15	100	2200	2800	
3/8	9	410	8000	10500	19000	3/16	16	80	1700	2640	4300
1/2	10	320	6000	7800	14000	5/32	17	55	1300	2200	
5/8	11	240	6000			3/8	18	42	1000		
3/4	12	220	5000	6500	11000	7/16	19	33	700		
7/8	13	174	3800	4700	9360	1/2	20	25	560		
1	14	120	2800	3310	6300	5/8	21	20	490		

Prices quoted upon application.



## PINS AND BRACKETS



Wood Pin

### WOOD PINS

#### Oak, Painted

Trade No.	Size Inches	Sack Contains	Wt., Lbs. per 1000	Price per 1000
053196	1 1/4 x 8	250	300	\$16.50
053197	1 1/2 x 9	250	400	33.00

#### Locust, not Painted

053198	1 1/4 x 8	250	325	30.00
053199	1 1/2 x 9	250	450	60.00
42337	1 1/2 x 12	100	600	80.00
42335	1 1/2 x 12	100	650	90.00

No. 42337 has a 1-inch thread; No. 42335, 1 3/8-inch thread.

### TRANSPOSITION PINS

For use in connection with transposition glass insulators. Made from selected stock and with extra long thread.

#### Oak, Painted

053201	1 1/4 x 9	250	350	22.50
42333	1 1/2 x 10	250	450	33.75

#### Locust, not Painted

053203	1 1/4 x 9	250	400	37.50
42334	1 1/2 x 10	250	500	67.50

### DUPLEX PINS

For use in connection with duplex pony and duplex deep groove insulators.

#### Oak, Painted

053204	1 1/4 x 11 1/2	250	450	33.75
053205	1 1/2 x 12	250	600	60.00

#### Locust, not Painted

053206	1 1/4 x 11 1/2	250	500	67.50
053207	1 1/2 x 12	250	650	105.00

### REGULAR WOOD CORNER PINS

#### Oak, Painted

Trade No.	Size Inches	Size of Bolts Inches	Sack Contains	Wt., Lbs. per 1000	Price per 1000
053208	1 1/4 x 8	3/8	250	600	\$90.00
053209	1 1/2 x 9	3/8	250	725	102.50

#### Locust, not Painted

42326	1 1/4 x 8	3/8	250	625	95.00
42327	1 1/2 x 9	3/8	250	775	122.50

Corner pins are furnished complete, with bolt and washer.

### WESTERN UNION STEEL PINS

#### Plain and Galvanized

Trade No.	Size Inches	Sack Contains	Wt., Lbs. per 1000	Price per 1000 Plain	Price per 1000 Galvanized
053212	1 1/2 x 9 1/2	250	600	\$220.00	\$270.00
053213	5/8 x 9 1/2	250	950	280.00	350.00

### WOOD BRACKETS

#### Oak, Painted

Trade No.	Mfrs. No.	Size Inches	Sack Contains	Wt., Lbs. per 1000	Price per 1000
42281	4	1 1/2 x 2 x 10	250	500	\$43.50
42282	1	1 1/2 x 2 x 12	250	700	45.00
42283	3	1 1/2 x 2 1/4 x 12	250	800	48.00
42336	L. D.	1 5/8 x 2 x 12	250	800	60.00
12284	2	2 x 2 1/4 x 12	250	1000	67.50



Western Union Steel Pin



Wood Bracket



## CROSSARM BOLTS

HOT GALVANIZED OR PLAIN

WITH SQUARE HEADS AND SQUARE NUTS, FINISHED POINTS



Price, per Hundred

Length Inches	DIAMETER, INCHES								
	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$ and $1$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$
$\frac{3}{4}$ to $1\frac{1}{2}$	\$1.70	\$2.00	\$2.40	\$2.80	\$3.60	\$5.20	\$7.70	\$10.50	\$15.10
2	1.78	2.12	2.56	3.00	3.86	5.58	8.25	11.20	16.00
$2\frac{1}{2}$	1.86	2.24	2.72	3.20	4.12	5.96	8.80	11.90	16.90
3	1.94	2.36	2.88	3.40	4.38	6.34	9.35	12.60	17.80
$3\frac{1}{2}$	2.02	2.48	3.04	3.60	4.64	6.72	9.90	13.30	18.70
4	2.10	2.60	3.20	3.80	4.90	7.10	10.45	14.00	19.60
$4\frac{1}{2}$	2.18	2.72	3.36	4.00	5.16	7.48	11.00	14.70	20.50
5	2.26	2.84	3.52	4.20	5.42	7.86	11.55	15.40	21.40
$5\frac{1}{2}$	2.34	2.96	3.68	4.40	5.68	8.24	12.10	16.10	22.30
6	2.42	3.08	3.84	4.60	5.94	8.62	12.65	16.80	23.20
$6\frac{1}{2}$	2.50	3.20	4.00	4.80	6.20	9.00	13.20	17.50	24.10
7	2.58	3.32	4.16	5.00	6.46	9.38	13.75	18.20	25.00
$7\frac{1}{2}$	2.66	3.44	4.32	5.20	6.72	9.76	14.30	18.90	25.90
8	2.74	3.56	4.48	5.40	6.98	10.14	14.85	19.60	26.80
9	2.90	3.80	4.80	5.80	7.50	10.90	15.95	21.00	28.60
10	3.06	4.04	5.12	6.20	8.02	11.66	17.05	22.40	30.40
11	3.22	4.28	5.44	6.60	8.54	12.42	18.15	23.80	32.20
12	3.38	4.52	5.76	7.00	9.06	13.18	19.25	25.20	34.00
13	.....	.....	6.08	7.40	9.58	13.94	20.35	26.60	35.80
14	.....	.....	6.40	7.80	10.10	14.70	21.45	28.00	37.60
15	.....	.....	6.72	8.20	10.62	15.46	22.55	29.40	39.40
16	.....	.....	7.04	8.60	11.14	16.22	23.65	30.80	41.20
17	.....	.....	.....	.....	11.66	16.98	24.75	32.20	43.00
18	.....	.....	.....	.....	12.18	17.74	25.85	33.60	44.80
19	.....	.....	.....	.....	12.70	18.50	26.95	35.00	46.60
20	.....	.....	.....	.....	13.22	19.26	28.05	36.40	48.40

Weight Pounds, per Hundred

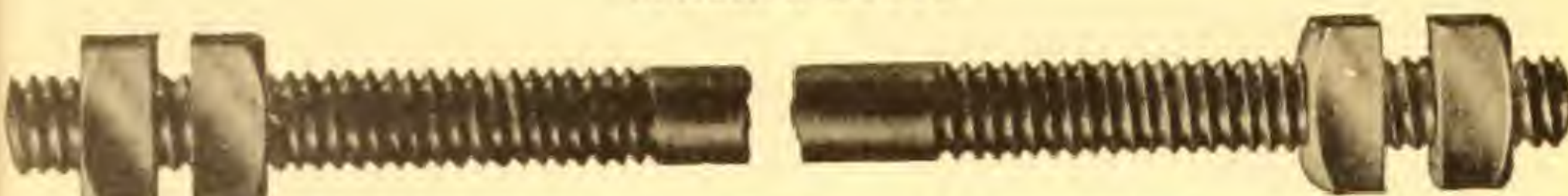
Length Under Head, In.	DIAMETER, INCHES								
	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$1$	$1\frac{1}{4}$	$1\frac{1}{2}$
$\frac{3}{4}$	2.55	4.4	7.71	10	.....	.....	.....	.....	.....
$\frac{7}{8}$	2.64	4.65	8.04	10.53	.....	.....	.....	.....	.....
1	2.73	4.9	8.36	11.03	15.5	19.8	28.95	47.63	.....
$1\frac{1}{4}$	2.91	5.4	9.01	11.9	16.7	21.6	30.89	50.10	.....
$1\frac{1}{2}$	3.08	5.9	9.66	12.8	17.9	23.4	31.83	52.57	81.25
2	3.43	6.8	10.94	14.5	20.4	27.0	36.70	57.60	90.63
$2\frac{1}{2}$	4.45	7.8	12.74	17.25	24.91	31.5	41.55	63.44	98.63
3	5.45	8.7	14.37	18.75	27.64	33.1	45.40	69.84	106.30
$3\frac{1}{2}$	6.46	9.7	15.83	20.90	29.74	36.7	49.28	75.93	114.30
4	7.09	10.7	17.3	23.09	32.89	40.3	53.16	81.77	122.30
$4\frac{1}{2}$	7.7	11.7	18.76	25.27	34.98	43.0	57.04	87.61	130.30
5	8.3	12.7	20.2	27.50	36.01	47.3	61.90	93.45	138.30
$5\frac{1}{2}$	8.9	13.7	21.58	29.59	38.61	50.9	65.77	99.46	146.30
6	9.5	14.7	22.95	31.68	41.22	52.9	68.90	105.13	154.30
$6\frac{1}{2}$	10.2	15.7	24.42	33.9	43.82	56.5	72.77	111.14	162.30
7	10.8	16.7	25.9	35.73	46.42	60.7	76.71	117.15	170.30
$7\frac{1}{2}$	11.5	17.7	27.37	37.56	49.02	64.3	80.58	123.16	178.30
8	12.1	18.7	28.84	39	51.64	67.9	84.45	129.17	186.30
9	13.4	20.8	31.8	43.18	56.84	75.1	92.19	141.19	202.30
10	14.6	22.9	34.75	47.36	62.04	82.3	99.94	153.21	218.30
11	15.8	24.9	37.7	51.6	67.24	89.5	107.69	165.23	234.30
12	17	26.9	40.65	55.76	72.44	96.7	115.44	177.25	250.30
13	18.2	28.9	43.6	59.92	77.64	103.9	123.19	189.27	266.30
14	19.4	31.0	46.55	64.20	82.84	111.1	130.94	201.29	282.30
15	20.6	33.0	49.5	68.36	88.04	118.3	138.69	213.31	298.30
16	21.8	35	52.45	72.52	93.24	125.5	146.44	225.33	314.30
17	23	37	55.4	76.68	98.44	132.7	154.19	237.35	330.30
18	24.2	39	58.35	80.84	103.64	139.9	161.94	249.37	346.30
19	25.4	41	61.3	85	108.83	147.1	169.69	261.39	362.30
20	26.6	43	64.25	89.16	114.04	154.3	177.44	273.41	378.30



## SPACING AND BRACE BOLTS

HOT GALVANIZED OR PLAIN

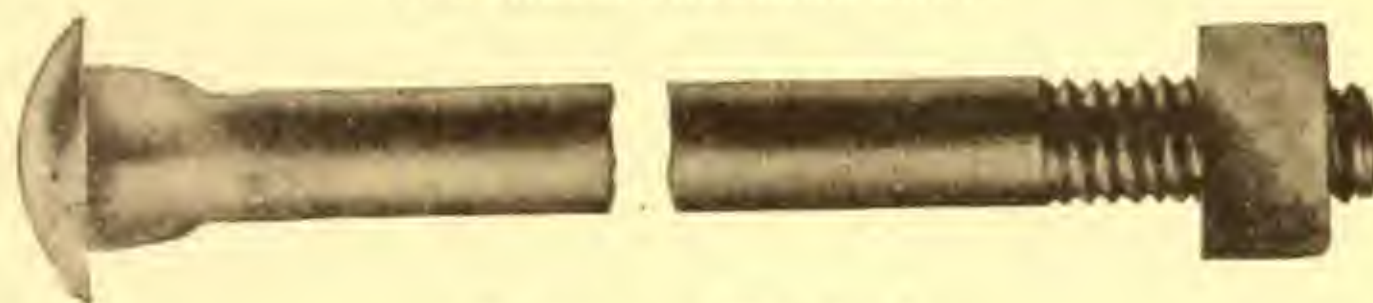
### SPACING BOLTS



Size In.	Wt., Lbs. per 100	Price per 100	Size In.	Wt., Lbs. per 100	Price per 100	Size In.	Wt., Lbs. per 100	Price per 100
1 1/2 x 12	78.0	\$12.70	5/8 x 12	138.0	\$19.44	3/4 x 12	220.0	\$28.80
1 1/2 x 13	83.0	13.22	5/8 x 13	145.0	20.20	3/4 x 13	232.0	29.90
1 1/2 x 14	88.0	13.74	5/8 x 14	153.0	20.96	3/4 x 14	244.0	31.00
1 1/2 x 15	93.0	14.26	5/8 x 15	162.0	21.72	3/4 x 15	256.0	32.10
1 1/2 x 16	98.0	14.78	5/8 x 16	168.0	22.48	3/4 x 16	268.0	33.20
1 1/2 x 17	103.0	15.30	5/8 x 17	178.0	23.24	3/4 x 17	280.0	34.30
1 1/2 x 18	108.0	15.82	5/8 x 18	188.0	24.00	3/4 x 18	292.0	35.40
1 1/2 x 19	113.0	16.34	5/8 x 19	198.0	24.76	3/4 x 19	304.0	36.50
1 1/2 x 20	118.0	16.86	5/8 x 20	208.0	25.52	3/4 x 20	316.0	37.60

### BRACE BOLTS

STANDARD CARRIAGE BOLTS



Price, per Hundred

Length In.	DIAMETER, INCHES						
	1/2 and 5/8	3/4	7/8	1	1 1/4	1 1/2 and 1 3/4	2
1	\$1.00	\$1.40	\$1.90	\$2.20	\$3.25	\$5.75	\$ 8.50
1 1/2	1.00	1.40	1.90	2.20	3.25	5.75	8.50
2	1.10	1.52	2.06	2.40	3.25	5.75	8.50
2 1/2	1.20	1.64	2.22	2.60	3.25	5.75	8.50
3	1.30	1.76	2.38	2.80	3.53	6.13	9.00
3 1/2	1.40	1.88	2.54	3.00	3.81	6.51	9.50
4	1.50	2.00	2.70	3.20	4.09	6.89	10.00
4 1/2	1.60	2.12	2.86	3.40	4.37	7.27	10.50
5	1.70	2.24	3.02	3.60	4.65	7.65	11.00
5 1/2	1.80	2.36	3.18	3.80	4.93	8.03	11.50
6	1.90	2.48	3.34	4.00	5.21	8.41	12.00
6 1/2	2.00	2.60	3.50	4.20	5.49	8.79	12.50
7	2.10	2.72	3.66	4.40	5.77	9.17	13.00
7 1/2	2.20	2.84	3.82	4.60	6.05	9.55	13.50
8	2.30	2.96	3.98	4.80	6.33	9.93	14.00

Weight Pounds, per Hundred

Length Under Head, Inches	DIAMETER, INCHES							
	1/2	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2
1	1.9	3.0	5.0	7.5	10.5	17.1	28.0	38.0
1 1/4	2.2	3.4	5.6	8.2	11.5	18.4	29.0	39.0
1 1/2	2.4	3.7	6.2	9.0	13.5	21.0	32.0	42.0
2	2.9	4.2	7.2	10.7	15.5	23.5	35.0	45.0
2 1/2	3.3	4.9	8.2	12.2	17.5	26.0	38.0	48.0
3	3.7	5.6	9.2	13.6	19.5	28.5	41.0	51.0
3 1/2	4.1	6.2	10.2	15.2	21.5	31.0	44.0	54.0
4	4.6	7.0	11.2	16.7	23.5	33.7	47.0	57.0
4 1/2	5.1	7.7	12.4	18.2	25.5	36.4	50.0	60.0
5	5.6	8.5	13.5	19.5	27.5	39.0	53.0	63.0
5 1/2	6.1	9.2	14.5	21.0	29.5	41.7	56.0	66.0
6	6.6	10.0	16.0	22.6	32.0	44.6	59.0	69.0
6 1/2	7.1	10.5	17.2	24.0	33.7	47.2	62.0	72.0
7	7.6	11.1	18.1	25.6	35.8	50.0	65.0	75.0
7 1/2	8.1	11.7	19.2	27.1	38.0	52.8	68.0	78.0
8	8.6	12.5	19.3	28.6	40.0	55.6	71.0	81.0

When ordering specify plain or hot galvanized.  
Washers are not furnished with bolts.



## COACH AND LAG SCREWS

HOT GALVANIZED OR PLAIN

WITH SQUARE HEADS



Twist Drive Lag Screw



Fetter Drive Screw



Coach Screw Gimlet Point

Price, per Hundred

Length Under Head, In.	DIAMETER, INCHES							
	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$ and $\frac{7}{16}$	$\frac{1}{2}$	$\frac{3}{4}$	1
1½	\$2.25	\$2.70	\$3.15	\$3.75	.....	.....	.....	.....
2	2.45	2.96	3.47	4.11	6.00	.....	.....	.....
2½	2.65	3.22	3.79	4.47	6.50	9.20	.....	.....
3	2.85	3.48	4.11	4.83	7.00	9.90	15.50	.....
3½	3.05	3.74	4.43	5.19	7.50	10.60	16.00	22.00
4	3.25	4.00	4.75	5.55	8.00	11.30	17.00	23.30
4½	3.45	4.26	5.07	5.91	8.50	12.00	18.00	24.60
5	3.65	4.52	5.39	6.27	9.00	12.70	19.00	25.90
5½	3.85	4.78	5.71	6.63	9.50	13.40	20.00	27.20
6	4.05	5.04	6.03	6.99	10.00	14.10	21.00	28.50
6½	4.25	5.30	6.35	7.35	10.50	14.80	22.00	29.80
7	4.45	5.56	6.67	7.71	11.00	15.50	23.00	31.10
7½	4.65	5.82	6.99	8.07	11.50	16.20	24.00	32.40
8	4.85	6.08	7.31	8.43	12.00	16.90	25.00	33.70
9	5.25	6.60	7.95	9.15	13.00	18.30	27.00	36.30
10	5.65	7.12	8.59	9.87	14.00	19.70	29.00	38.90
11	6.05	7.64	9.23	10.59	15.00	21.10	31.00	41.50
12	6.45	8.16	9.87	11.31	16.00	22.50	33.00	44.10

Weight Pounds, per Hundred

Length Under Head, In.	DIAMETER, INCHES							
	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$ and $\frac{7}{16}$	$\frac{1}{2}$	$\frac{3}{4}$	1
1½	2.7	3.5	5.8	9.1	.....	.....	.....	.....
2	3.5	4.4	7.1	11.0	15.0	22.8	26.3	.....
2½	4.2	5.3	8.5	12.9	17.3	25.3	29.9	.....
3	4.7	6.2	9.8	14.8	19.5	27.8	33.5	.....
3½	5.2	7.1	11.1	16.5	21.6	30.4	37.1	46.1
4	5.7	8.0	12.5	18.2	23.8	33.0	40.7	51.5
4½	6.5	9.0	13.8	19.9	26.3	35.5	44.5	57.1
5	7.0	10.0	14.9	21.8	28.8	38.0	48.3	62.9
5½	7.5	11.0	16.0	23.5	31.3	40.7	52.0	68.8
6	8.0	12.0	17.2	25.2	33.8	43.3	55.7	74.7
7	.....	.....	.....	.....	38.9	50.0	63.2	80.5
8	.....	.....	.....	.....	44.0	56.8	69.3	92.3
9	.....	.....	.....	.....	48.5	63.5	76.4	104.0
10	.....	.....	.....	.....	53.0	70.3	83.5	115.4
11	.....	.....	.....	.....	57.5	77.0	90.6	126.8
12	.....	.....	.....	.....	62.0	83.7	97.8	138.2



# CROSSARM BRACES, WASHERS AND ANCHOR RODS

## CROSSARM BRACES



Furnished in sizes  $1 \times \frac{1}{4}$  in.,  $1 \frac{1}{2} \times \frac{1}{2}$  inch,  $1 \frac{1}{4} \times \frac{1}{4}$  inch and in any length desired. Punched  $\frac{3}{8}$ -inch hole one end and  $\frac{9}{16}$ -inch hole the other end, both holes being one inch from center to end. Specify if plain or hot galvanized is required.

Size In.	Wt., Lbs. per 1000	Size In.	Wt., Lbs. per 1000	Size In.	Wt., Lbs. per 1000
$1 \times \frac{1}{4} \times 20$	1395	$1 \frac{1}{2} \times \frac{1}{2} \times 20$	1420	$1 \frac{1}{4} \times \frac{1}{4} \times 20$	1670
$1 \times \frac{1}{4} \times 22$	1530	$1 \frac{1}{2} \times \frac{1}{2} \times 22$	1560	$1 \frac{1}{4} \times \frac{1}{4} \times 22$	1835
$1 \times \frac{1}{4} \times 24$	1670	$1 \frac{1}{2} \times \frac{1}{2} \times 24$	1700	$1 \frac{1}{4} \times \frac{1}{4} \times 24$	2000
$1 \times \frac{1}{4} \times 26$	1805	$1 \frac{1}{2} \times \frac{1}{2} \times 26$	1840	$1 \frac{1}{4} \times \frac{1}{4} \times 26$	2165
$1 \times \frac{1}{4} \times 28$	1945	$1 \frac{1}{2} \times \frac{1}{2} \times 28$	1980	$1 \frac{1}{4} \times \frac{1}{4} \times 28$	2335

## WASHERS



Round



Square

Outside Diam. Inches	Size Hole Inches	Thickness B. W. G.	For Bolt Inches	Average No in 100 Lbs
$\frac{9}{16}$	$\frac{1}{4}$	18	$\frac{3}{16}$	39400
$\frac{5}{4}$	$\frac{5}{16}$	16	$\frac{1}{4}$	15000
$\frac{7}{8}$	$\frac{3}{8}$	16	$\frac{5}{16}$	11250
1	$\frac{7}{8}$	14	$\frac{3}{8}$	6800
$1 \frac{1}{4}$	$1 \frac{1}{2}$	13	$\frac{7}{8}$	4300
$1 \frac{3}{8}$	$\frac{9}{8}$	12	$1 \frac{1}{8}$	2600
$1 \frac{1}{2}$	$\frac{5}{8}$	12	$\frac{9}{8}$	2250
Outside Diam. Inches	Size Hole Inches	Thickness Inches	For Bolt Inches	Wt., Lbs. per 1000
2x2	$\frac{9}{16}$	$\frac{3}{16}$	$\frac{1}{2}$	Plain 200 Galvanized 207
$2 \frac{1}{4} \times 2 \frac{1}{4}$	$\frac{1}{16}$	$\frac{3}{16}$	$\frac{5}{8}$	252 260
3x3	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{4}$	582 600
4x4	$1 \frac{1}{8}$	$\frac{1}{4}$	1	1045 1077
4x4	$1 \frac{1}{8}$	$\frac{3}{8}$	1	1494 1540
4x4	$1 \frac{1}{8}$	$\frac{1}{2}$	1	2018 2080

## ANCHOR RODS



Made with welded eye, six-inch thread and fitted with square nut. Washers are not furnished unless ordered.

Size In. Ft.	Approx. Wt., Lbs. per 1000	Size In. Ft.	Approx. Wt., Lbs. per 1000	Size In. Ft.	Approx. Wt., Lbs. per 1000
$\frac{1}{2}$ 5	3669	$\frac{5}{8}$ 7	7800	$\frac{3}{4}$ 8	13533
$\frac{1}{2}$ 6	4336	$\frac{5}{8}$ 8	8781	$\frac{3}{4}$ 9	14250
$\frac{1}{2}$ 7	5002	$\frac{3}{4}$ 4	6759	1 6	17360
$\frac{5}{8}$ 4	4694	$\frac{3}{4}$ 5	8261	1 8	22690
$\frac{5}{8}$ 5	5729	$\frac{3}{4}$ 6	9750	1 10	28030
$\frac{5}{8}$ 6	6760	$\frac{3}{4}$ 7	11250	... ..	.....



## POLE STEPS, WIRE ROPE CLAMPS AND CLIPS

## POLE STEPS

Made with hook head and coach screw. Specify whether hot galvanized or plain is required.



Size In.	Wt., Lbs. per 100	Size In.	Wt., Lbs. per 100	Size In.	Wt., Lbs. per 100
$\frac{3}{8} \times 9$	69	$\frac{3}{8} \times 10$	80	$\frac{3}{8} \times 10$	91
$\frac{5}{8} \times 9$	83	.....	..	.....	..

Prices upon application.

## ROLLED STEEL GUY CLAMPS

Hot Galvanized



No. 10



No. 30

Nos. 10 and No. 20, heavy pattern. Rolled steel with curve in longitudinal groove which ensures a perfect grip on the strand. Made in two and three bolt sizes. For strand  $\frac{1}{4}$  to  $\frac{1}{2}$ -inch diameter. Bolts are  $\frac{1}{2}$ -inch diameter.

Nos. 30 and 40, light pattern, are rolled steel with raised grip in the groove to prevent strand slipping. For strand  $\frac{1}{4}$  to  $\frac{1}{2}$ -inch diameter. Bolts are  $\frac{1}{2}$ -inch diameter.

Trade No.	No.	No. of Bolts	Length Inches	Wt., Lbs. per 100
202452	10	3	6	237
202453	20	2	3	143
202454	30	3	5	155
202455	40	2	3	100

Prices upon application.

## WIRE ROPE CLIPS

Steel U Bolts and Nuts, Malleable Iron Body



Wire Rope Clip

Trade No.	Diam. Rope, In.	Wt., Lbs. per 100	PRICE, PER 100	
			Japaned	Galvanized
202456	$\frac{1}{8}$	12	\$5.56	\$6.75
202457	$\frac{3}{16}$	12	5.56	6.75
202458	$\frac{1}{4}$	16	6.55	7.90
202459	$\frac{5}{16}$	17	6.95	8.25
202460	$\frac{3}{8}$	27	8.21	10.45
202461	$\frac{7}{16}$	33	9.46	12.40
202462	$\frac{1}{2}$	46	11.57	15.40
202463	$\frac{9}{16}$	65	14.50	19.45
202464	$\frac{5}{8}$	70	15.68	21.45
202465	$\frac{3}{4}$	105	21.07	31.15
202466	$\frac{7}{8}$	150	29.53	42.35
202467	1	180	34.30	50.20



## WIRE ROPE THIMBLES, HANGERS AND CLAMPS



Heavy Galvanized  
Thimble

### HEAVY GALVANIZED THIMBLES

Trade No.	Diam. Strand In.	Approx. Wt., Lbs. per 100	Price per 100
202478	1/4	5	\$3.60
202479	5/16	8	4.34
202480	3/8	10	5.04
202481	7/16	12	5.76
202482	1/2	17	6.42
202483	5/8	28	7.94
202484	3/4	38	9.36
202485	7/8	56	11.78
202486	1	73	15.16
202487	1 1/8	122	23.54
202488	1 1/4	132	27.76
202489	1 1/2	216	42.00



No. 1 Non-breakable Messenger Hanger

### NON-BREAKABLE MESSENGER HANGERS

Installed with one through bolt. They hold the messenger strand securely and are absolutely safe for both men and cable.

Galvanized by hot dip process or sherar-dized if desired.

Made with two sizes of grooves, one for 5/8-inch strand and smaller, the other for 3/4-inch strand and larger. When ordering, specify the size of the strand to be used.

No. 1 shows position of messenger strand when being pulled over the top of the hanger into position. When the strand has been pulled taut the nut is loosened permitting the strand to drop into the groove. It is then secured by tightening the nut, No. 2.



No. 2 Non-breakable Messenger Hanger

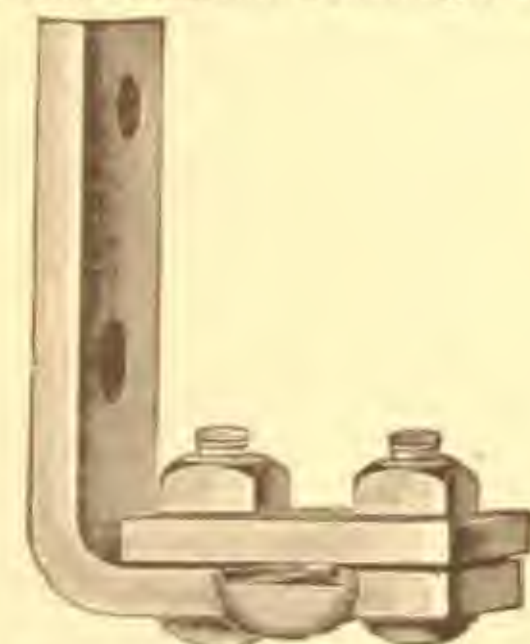
Trade No.	Wt., Lbs. per 100	Price Each
202490	150	\$0.30

### UNIVERSAL MESSENGER HANGERS

These hangers are forged from open hearth steel. No. 1 size is made from 1 1/2 x 2-inch stock and No. 2 size from 3/8 x 1 3/4-inch stock.

On account of shape of the groove they are especially adapted for use on corners, as well as straight work.

The bolts are heavy and made from high tensile stock, so that the messenger strands can be clamped securely at each pole. Galvanized by hot dip process.



Universal Messenger Hanger

Trade No.	No.	Wt., Lbs. per 100	Price Each
202491	1	300	\$0.40
202492	2	250	.35



Suspension Clamp

### CABLE SUSPENSION CLAMPS

Trade No.	Mfrs. No.	Type	Length In.	Size Strand In.	Wt., Lbs. per 100	Price per 100
99801	8901	One-bolt	2 1/2	1/4 to 3/8	80	\$20.00



## CABLE HANGERS

## LOCKE AERIAL CABLE RINGS

These rings are galvanized metal cable hangers which last as long as the strand to which they are attached.

## Type A

Type A rings have an inside diameter of  $1\frac{3}{4}$  inches and are large enough for all cable up to 100 pair No. 22.

Trade No.	Diam. Inches	Std. Pkg.	Wt. Lbs.	Price per 1000
093401	$1\frac{3}{4}$	1000	61	\$18.00

## Type C

Type C rings have two hooks, making them very strong.

093402	$1\frac{3}{4}$	1000	65	21.75
093403	2	1000	72	23.25
093405	$2\frac{1}{2}$	500	47	27.00
093406	3	500	53	30.00
093407	$3\frac{1}{2}$	250	29	36.00

## Pliers for Attaching Rings

Made in two sizes: Small size for  $1\frac{3}{4}$  and 2-inch rings, and large size for  $2\frac{1}{2}$ , 3 and  $3\frac{1}{2}$ -inch rings.

Trade No.	Description	Price Each
093408	Small size	\$4.00
093409	Large size	5.00
69476	Adjustable size	10.00

## NATIONAL ONE HAND LOCKING AERIAL RINGS

These rings are easily and quickly snapped on the messenger with one hand, no crimpers, pliers or other tools needed.

It automatically grips the wire so that it is impossible for the ring to slip. The greater the strain the tighter it holds.

Durable, because it is made of highest grade wire and galvanized by hot dip process guaranteed to meet Standard Four Immersion tests.

Trade No.	Size Inches	Std. Pkg.	Wt., Lbs. per 1000	Price per 1000
200072	2	1000	85	\$23.40
200073	$2\frac{1}{2}$	500	120	31.05
200074	3	500	135	34.20
200075	$3\frac{1}{2}$	500	145	36.00

## MARLINE CABLE HANGERS

## No. 3 A. T. &amp; T. Specifications

The hooks are made of No. 9 spring steel wire and are re-galvanized by hot dip process after they are formed.

Trade No.	Hook No.	Description	Wt., Lbs. per 1000	Length of Loop, In.	Size of Cable, Pair	Price per 1000
076011	9	3-ply houseline	35	9	25	\$23.80
076012	9	3-ply houseline	37	11	50	26.20
076013	9	3-ply houseline	38	12	75	28.00
076014	9	3-ply houseline	40	14	100	30.00
076015	9	3-ply houseline	42	15	150	31.00
076016	9	3-ply houseline	45	16	200	32.50

No. 6 re-galvanized hooks furnished on this grade at a net advance of \$1.50 per thousand.

## BRIDLE RINGS

Trade No.	Style	Eye	SIZE, INCHES Opening	Shank	Price per 100
012160	A	$1\frac{5}{8}$	$\frac{1}{4}$	$1\frac{1}{4}$	.....
012162	C	$1\frac{1}{4}$	$\frac{1}{4}$	$1\frac{1}{2}$	.....
012164	E	$\frac{5}{8}$	$\frac{1}{4}$	$\frac{7}{8}$	.....
012165	F	3	$\frac{1}{4}$	$1\frac{3}{4}$	.....



Type A Ring  
Showing Plier Used to  
Attach Rings to Strand



Type C Ring  
Showing Edge



National Aerial Ring



Marline Hanger



Bridle Ring



## CABLE RINGS OR HANGERS

### BONITA AERIAL CABLE RINGS



Bonita Ring in  
Place on Strand



Illustrations Above  
Indicate Method of  
Attaching Bonita  
Rings to the  
Supporting Wire  
by Hand



Bonita Wiring Ring  
1½-inch Size for  
Twisted Pair of Very  
Small Cables

Bonita rings are made of a high carbon semi-spring steel wire of special cross section, hot dip galvanized after forming. They are much stronger than the older types of flat wire aerial rings and due to their peculiar formation Bonita rings are attachable to the supporting messenger by hand. This feature is of great value as it enables these rings to be placed on the strand with ease and rapidity, and in addition the zinc coating is not injured in the slightest by attaching them.

Bonita rings grip the supporting messenger in a remarkable manner and are not displaced during a cable pull. They, may, if desirable, be used over and over again, as the rings are in no wise distorted or injured by removal and reattachment.

Bonita rings are especially strong and have a factor of safety of from 25 to 100 times the load they are called upon to support.

Bonita rings are practically indestructible and will last as long as the strand to which attached. This feature is of special value as the whole line depreciates uniformly and renewals of the rings are unnecessary until the entire line has to be replaced.

The special wire used in manufacturing Bonita rings is flattened to ¼ inch thickness and approximately ¼ inch in width, with rounded edges. This section gives an excellent bearing surface for the cable to rest upon and also enables the gripping hooks to bear evenly and strongly on the supporting messenger.

Bonita rings can be attached to the supporting wire about twice as rapidly as the older plier attached types, and in addition are fool-proof, as they can be put onto the strand in the right way only.

Bonita rings are made in both open and closed types. The so-called closed type is used on all new work, when the cable is pulled directly into the rings on the strand. The open type of Bonita ring is for use in re-clipping or rehooking existing heads, where the original hangers or clips have worn out or deteriorated to the extent of needing replacement. They are formed with an extra amount of opening at the top of the ring, between the hooked ends, which permits them to be passed over and around the cable and then hooked on to the strand without trouble. In ordering Bonita rings for renewal purposes the words open type should therefore be used.

Bonita rings have been approved and are in wide use today by the leading telephone and telegraph companies, as well as many of the largest railroad corporations.

Bonita rings are made in the following sizes and for any weight of strand or supporting messenger:

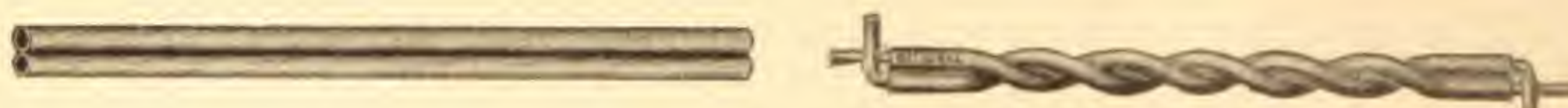
Trade No.	Diam. Inches	No. and Kind of Wire	Std. Pkg.	Wt. Lbs.	Price per 1000
168847	1½	11 round	2000	65	\$16.00
168848	1½	3/32 x 3/8	1000	48	18.00
168849	2	7/16 x 1/2	1000	70	25.00
168850	2	1/2 x 1/4	1000	87	30.00
168851	2½	1/2 x 1/4	500	55	35.00
168852	3	1/2 x 1/4	500	60	40.00
168853	3½	1/2 x 1/4	500	65	45.00
168854	4	Special	250	..	70.00
168855	4½	to order	250	..	85.00

The size is determined by the dimension of the inside circular opening of the rings, when on the strand. In ordering specify size of strand on which to be used. Allow at least ½ inch greater diameter of ring than outside diameter of cable to be installed.



## NATIONAL CONNECTORS

## DOUBLE CONNECTORS



These connectors have been used for years by the largest telephone, telegraph, electric railway, light and power companies throughout this country and abroad. In every instance although subjected to all sorts of weather and atmospheric conditions from extreme heat to extreme cold, they have rendered more than satisfactory service.

All National Sleeves are manufactured accurately to size from the best grade pure copper. Each detail of operation, from the making of the dies to the finished sleeve, has been carefully planned with the element of quality always predominant. Moreover, a rigid factory inspection weeds out any possible defective material, positively insuring satisfaction.

When twisted, National Sleeves are drawn so tightly around the conductors as to form practically a welded joint. Thus the danger of corrosion, due to air and moisture, is entirely eliminated and instead of building up a high resistance, as is true of the average hand splice, a joint of this type has a ratio of conductivity with the conductor of better than two to one.

## DOUBLE TUBE COPPER SLEEVES FOR STRANDED CABLE

Mfrs. No.	Gauge No.	Diam. Wire Inches	Length Inches	Wt., Lbs. per 1000	Mfrs. No.	Gauge No.	Diam. Wire Inches	Length Inches	Wt., Lbs. per 1000
200	0000 B&S	.530	20	1570	204	1 B&S	.330	14	550
201	000 B&S	.470	20	1400	205	2 B&S	.291	12	350
202	00 B&S	.420	18	1025	206	3 B&S	.261	9½	250
203	0 B&S	.375	16	675	207	4 B&S	.231	8¾	190

## DOUBLE TUBE COPPER SLEEVES FOR SOLID WIRE

210	0000 B&S	.460	20	1400	225	9 BWG	.148	5¾	85
211	000 B&S	.410	18	1025	226	10 B&S	.102	4¾	30
212	00 B&S	.365	16	675	227	10 BWG	.134	5½	60
213	0 B&S	.325	14	550	228	11 BWG	.120	5¼	50
214	1 B&S	.289	12	350	229	12 B&S	.081	4½	23
215	2 B&S	.258	9½	250	230	12 BWG	.109	4¾	35
216	3 B&S	.229	8¾	190	231	12 NBS	.104	4¾	30
217	4 B&S	.204	6	130	232	14 B&S	.064	4	20
218	4 B&S	.204	8	160	233	14 BWG	.083	4½	23
219	5 B&S	.182	6	115	234	14 NBS	.080	4½	23
220	6 B&S	.162	6	100	235	16 B&S	.051	4	18
221	7 B&S	.144	5¾	85	236	16 BWG	.065	4	20
222	8 B&S	.128	5½	60	237	17 B&S	.045	4	15
223	8 BWG	.165	6	100	238	18 BWG	.049	4	18
224	9 B&S	.114	5¼	50					

## DOUBLE TUBE TINNED COPPER SLEEVES

240	8 BWG	.165	6¾	110	243	12 BWG	.109	4¾	40
241	9 BWG	.148	5¾	90	244	14 BWG	.083	4½	30
242	10 BWG	.134	5½	65	245	16 BWG	.065	4	25

## DOUBLE TUBE TINNED STEEL SLEEVES

250	8 BWG	.165	6¾	90	253	12 BWG	.109	4¾	35
251	9 BWG	.148	5¾	60	254	14 BWG	.083	4½	30
252	10 BWG	.134	5½	55	255	16 BWG	.065	4	25



# NATIONAL CONNECTORS

## SINGLE TUBE CONNECTORS

For Splicing Underground Power Transmission Cables



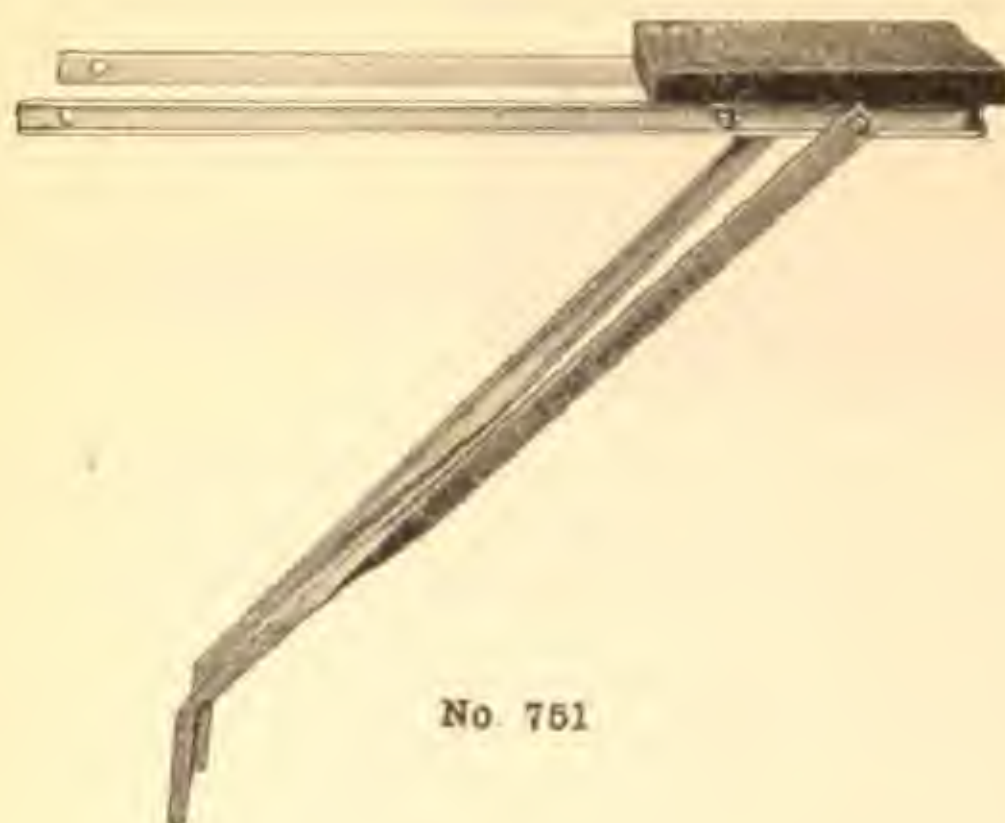
These sleeves are split their entire length to enable the hot solder to flow evenly around the cable and are covered with a coating of tin to permit easy soldering. The ends are beveled so that there will not be the possibility of the building up of a high potential occasioned by sharp corners.

Mfrs. No.	Size Cable	DIAMETER, INCHES		Length Inches	Ship. Wt., lbs. per 100
		Cable	Approx. Inside Sleeve		
325	12 B&S Solid	.081	.088	2	1
326	10 B&S Solid	.102	.105	2	1½
327	10 B&S Strand	.115	.116	2	2
328	8 B&S Solid	.128	.134	2	2
329	6 B&S Solid	.162	.166	2	3
330	6 B&S Strand	.183	.194	2	4½
331	5 B&S Solid	.182	.185	2	4
332	5 B&S Strand	.206	.225	2	5
333	4 B&S Solid	.204	.208	2	5
334	4 B&S Strand	.231	.237	2	5½
335	3 B&S Solid	.229	.235	2	5
336	3 B&S Strand	.261	.268	2	6
337	2 B&S Strand	.291	.298	2	6
338	1 B&S Strand	.330	.339	2	7
339	0 B&S Strand	.375	.381	2	8
340	00 B&S Strand	.420	.428	2	9
341	000 B&S Strand	.470	.480	2	12
342	0000 B&S Strand	.530	.539	2¼	15
343	200000 C.M.	.512	.527	2¼	14
344	250000 C.M.	.575	.587	2¼	24
345	300000 C.M.	.630	.643	2½	28
346	350000 C.M.	.679	.695	2½	33
347	400000 C.M.	.728	.744	2¾	38
348	450000 C.M.	.770	.789	2¾	43
349	500000 C.M.	.819	.831	3	48
350	550000 C.M.	.855	.872	3	50
351	600000 C.M.	.891	.911	3	57
352	650000 C.M.	.927	.948	3	60
353	700000 C.M.	.963	.984	3	65
354	750000 C.M.	.999	1.018	3½	87
355	800000 C.M.	1.035	1.051	3½	91
356	850000 C.M.	1.062	1.082	3½	98
357	900000 C.M.	1.092	1.115	3½	100
358	950000 C.M.	1.125	1.146	3½	107
359	1000000 C.M.	1.152	1.180	4	118
360	1250000 C.M.	1.289	1.320	4	173
361	1500000 C.M.	1.412	1.440	5	205
362	1750000 C.M.	1.526	1.560	5½	250
363	2000000 C.M.	1.630	1.670	6	310
364	2500000 C.M.	1.819	1.824	6½	370

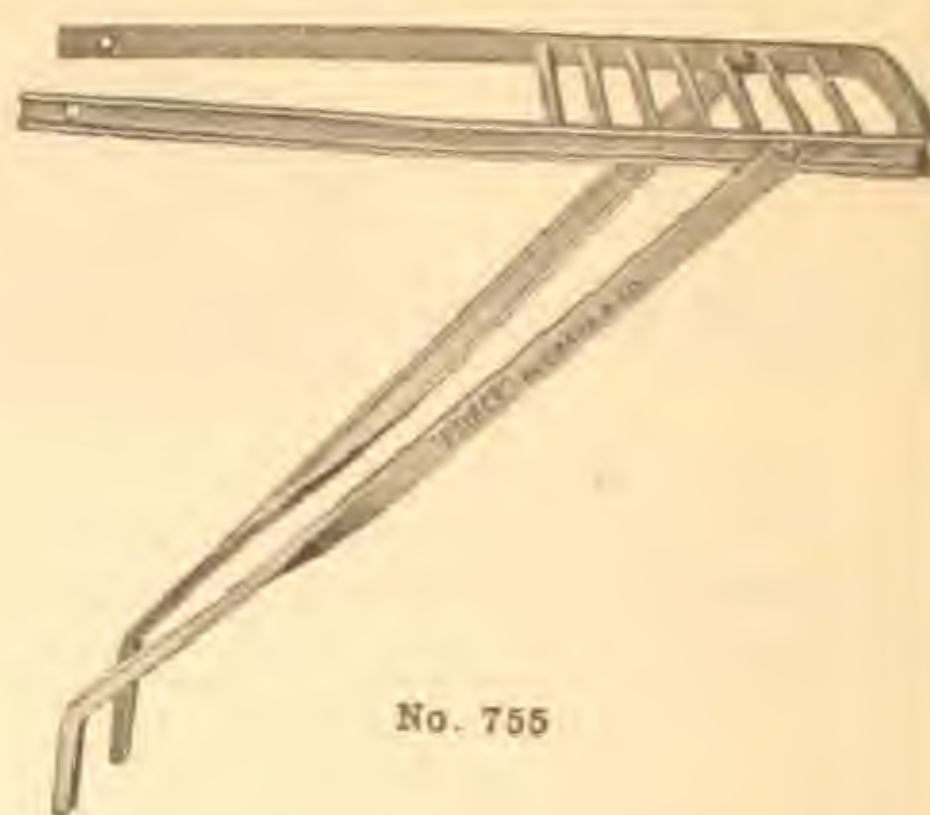


## PEIRCE POLE SEATS

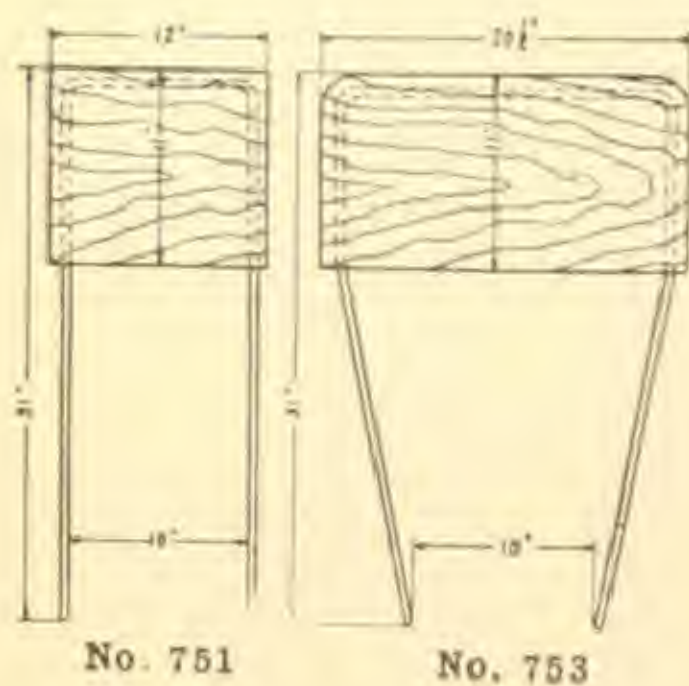
Hot Galvanized or Painted



No. 751



No. 755

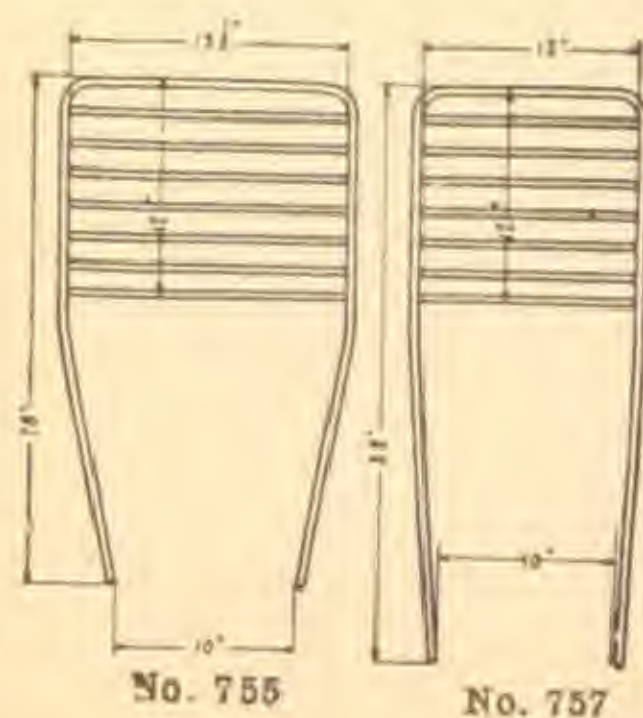


No. 751

No. 753

These are the seats which, in a competitive test, held a dead load of 1740 pounds without deflection. A  $1\frac{1}{4}$ -inch angle iron seat, weighing 50 per cent more, collapsed with 960 pounds load.

The frames and braces of all styles are of  $1\frac{1}{2}$ -inch channel steel. The wood seats are  $1\frac{1}{4}$ -inch cypress, boiled in creosote. The bars of the all steel seats are  $\frac{3}{8}$ -inch square steel, let into the frame in such manner as to leave no projecting ends. There is no strain on the riveted joints. The bars are placed with corners up to prevent slipping. They are shipped completely assembled in bundles of five.



No. 755

No. 757

Trade No.	Mfrs. No.	Finish	Std. Pkg.	Wt., Lbs. per 100	Price per 100
41636	750	Painted	5	1260	\$ 85.00
41637	751	Galvanized	5	1260	100.00
41638	752	Painted	5	1400	125.00
41639	753	Galvanized	5	1400	145.00
41640	754	Painted	5	1400	95.00
41641	755	Galvanized	5	1400	120.00
41642	756	Painted	5	1260	95.00
41643	757	Galvanized	5	1260	120.00



## STAPLES, CLEATS AND NAILS

### BLAKE INSULATED STAPLES



No. 1



No. 3



No. 5



No. 6

Trade No.	Mfrs. No.	Description	Price per 1000	Trade No.	Mfrs. No.	Description	Price per 1000
011745	1	For hardwood...	\$3.40	011747	5	For hardwood...	\$4.00
011746	3	For general use...	3.40	011748	6	For general use...	4.00

Nos. 1 and 3 are for twisted pair and single wires. Nos. 5 and 6 are for three-conductor and extra heavy twisted pair wire.

### BLAKE CLEATS

Made of compressed wood. The center partition protects the wire from the nail or screw.

Trade No.	Description	Std. Pkg.	Price per 100
011744	For duplex wire.....	100	\$0.70

### LEATHER NAIL HEADS

011112	Price, per 1000.....	1.00
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### PERFECTION INSULATED NAILS, PLAIN TOP

Trade No.	Mfrs. No.	Size of Shank, Inches	Price per 1000
011749	18	$\frac{1}{2}$	\$2.50
011750	18	$\frac{5}{8}$	2.50
011751	18	$\frac{3}{8}$	2.50

Furnished in light oak, dark oak, dark green and black.

### PLAIN COPPER STAPLES, ROUND AND FLAT

Trade No.	Size Inches	Style	Price per Lb.
011113	$\frac{3}{8}$	Round Top	\$0.50
011114	$\frac{1}{2}$	Round Top	.50
55623	$\frac{1}{2}$	Flat Top	.50

### BRASS CLEATS

Trade No.	Outside Diam., In.	Price per 100	Trade No.	Outside Diam., In.	Price per 100
07837	$\frac{3}{8}$	\$6.50	07839	$\frac{1}{2}$	\$10.00
07838	$\frac{3}{8}$	8.00	07840	$\frac{1}{2}$	15.00

### BRASS CORNER CLEATS

07841	$\frac{3}{8}$	7.50	07843	$\frac{1}{2}$	12.50
07842	$\frac{1}{2}$	8.00			

### HARD FIBER CLEATS

Trade No.	Style	Length Inches	Width Inches	Thickness Inches	Groove Inches	Price per 1000
08246	A	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4} \times \frac{1}{8}$	\$25.00
08247	B	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8} \times \frac{1}{8}$	25.60
08249	C	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4} \times \frac{1}{8}$	17.00
08250	D	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8} \times \frac{1}{8}$	42.00
08248	E	$1\frac{5}{8}$	$\frac{9}{16}$	$\frac{1}{2}$	$\frac{1}{4} \times \frac{1}{4}$	48.00

Style E is similar to style B, but larger.



Blake Cleats



Perfection Nail Round Square  
Copper Staples



Brass Cleat



Style A Fiber Cleat



Style B Fiber Cleat



Style C Fiber Cleat



Style D Fiber Cleat



## UNIVERSAL CLIPS

## TEST CLIPS

Universal Test Clips are time savers in any electrical work requiring quick temporary connections.

They may be used over and over again. Suggested for use with test sets, with voltmeters, on shop testing devices, by telephone linemen, as a helix clip, by meter departments, by railway signal inspectors, in college and commercial laboratories, on motor and transformer test floors and in motion picture projection work.

Trade No.	Mfrs. No.	Description	Price Each
90239	27	Clip only, 10-amp., screw connection; spread of jaws, $\frac{3}{8}$ in.	\$0.34
90240	28	Clip with insulator, 10-amp., screw connection; spread of jaws, $\frac{3}{8}$ in.	.50
90241	29	Insulator only, for 10-amp. size.	.16
122095	13	Clip only, 20-amp., screw connection; spread of jaws, $\frac{3}{4}$ in.	.34
122097	14	Clip with insulator, 20-amp., screw connection; spread of jaws, $\frac{3}{4}$ in.	.50
122099	15	Insulator only, for 20-amp. size.	.16
90017	21	Clip only, 50-amp., screw connection; spread of jaws, $1\frac{1}{2}$ in.	.70
90018	22	Clip with insulator, 50-amp., screw connection; spread of jaws, $1\frac{1}{2}$ inch	1.16
90019	23	Insulator only, for 50-amp. size.	.46
122100	11	Clip only, 100-amp., cleat connection; spread of jaws, 1 in.	1.10
122102	12	Clip with insulator, 100-amp., cleat connection; spread of jaws, 1 in.	1.56
90238	7	Insulator only for 100-amp. size.	.46
90021	33	Clip only, 200-amp., cleat connection; spread of jaws, 2 in.	2.50
90022	34	Clip with insulator, 200-amp., cleat connection; spread of jaws, 2 in.	4.00
90023	35	Insulator only for 200-amp. size.	1.50

## BATTERY CHARGING CLIPS

Battery charging clips are for use as a quick and ready means of connecting portable storage batteries for charging. They are lead coated to resist acid fumes.

122096	24A	15-amp. screw connection, spread of jaws, 1 in.	.30
90020	21A	Clip only, 35-amp., screw connection; spread of jaws, $1\frac{1}{2}$ in.	.40
90024	11A	100-amp., cleat connection; spread of jaws, 1 in.	1.20
122101	33A	Clip only, 200-amp., cleat connection; spread of jaws, 2 in.	2.70

Illustrations are Half Actual Size.



No. 27



No. 14



No. 21

No. 21A with  
Notched Jaws

No. 12



No. 24A



No. 11



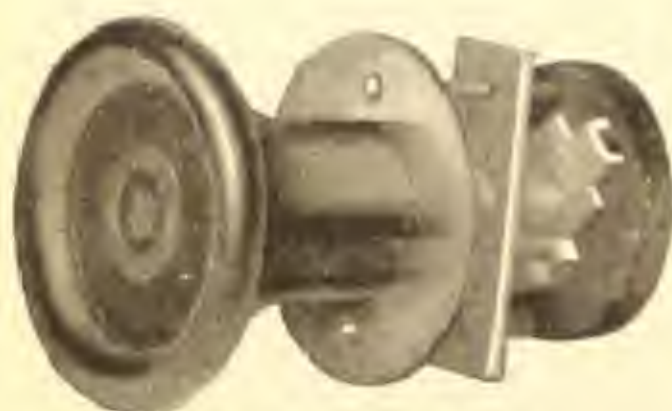
## C-H PLATE TYPE FIELD RHEOSTATS



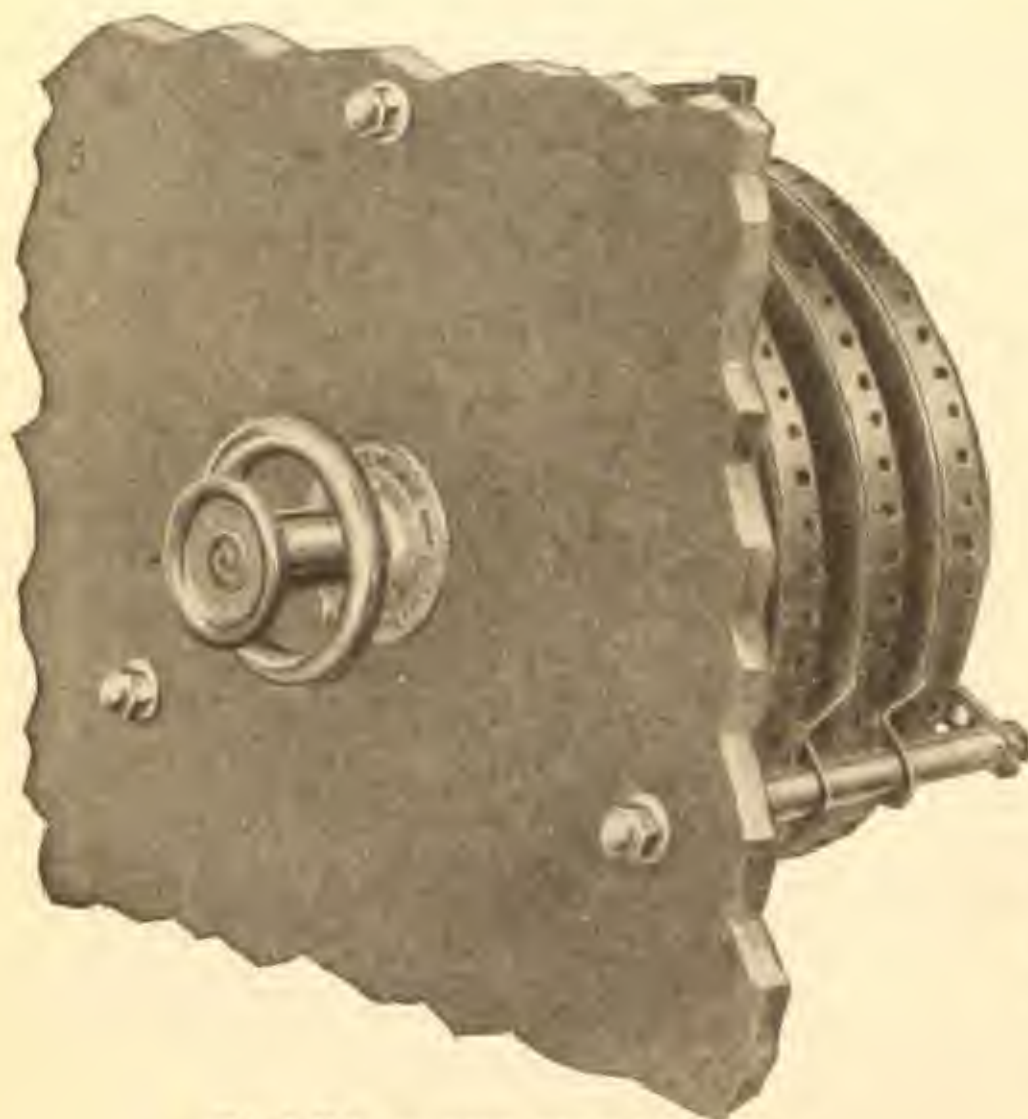
Rheostat



Handwheel and Dial Plate



Composition Handwheel



Dial Plate and Handwheels

These rheostats consist of one or more unit plates, each unit being a complete rheostat with radial lever, contacts and resistance. The resistance wire, reflexed to provide for expansion and to cover the surface adequately, is fastened to the molded pyroplax base and covered with a special cement. The single-plate rheostats are made in four sizes, approximately 6 inches, 10 inches, 12 inches and 15 inches in diameter. The front of the case is entirely enclosed in a well-ventilated, pressed steel frame, making it impossible to touch accidentally any live parts.

In the larger size rheostats, a number of the 15-inch plates are mounted parallel to each other on supporting rods and are provided with a common operating shaft. A combination of insulating coupling and universal joint is placed between the plates. They are connected in parallel or in series, depending on the ampere rating and resistance of the rheostat.

Rheostats consisting of two or more plates have the levers staggered, giving approximately double the number of steps of a single plate.

The rheostats listed on the following pages are of the convertible type. They are provided with a substantial insulated knob on the front of the rheostat and with a clutch member at the rear, and may therefore be mounted either on the front or back of the switchboard. If the rheostat is to be mounted on the back of the switchboard, it is necessary to purchase a separate handwheel and dial plate.

## Copper Handwheel and Dial Plate

Trade No.	Description	Price Each
26883	Suitable for one to six plates	\$4.70

## Composition Handwheel and Copper Dial Plate

26884	Suitable for one to three plates	2.10
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## Composition and Copper Handwheels and Dial Plate

With concentric shaft. Used for combined exciter and alternator rheostats or main and interpolating rheostats.

Trade No.	Description	Price Each
26885	Suitable for one to six plates	16.00

These rheostats may be used with fields of less resistance than that given in the tables under minimum ohms only when the current obtainable on the first step (short-circuited) does not exceed the maximum ampere rating of the rheostat.

For complete information, write for Bulletins Nos. 11106, 11111 and 10410.

FOR

These rheostats consist of one or more unit plates, each unit being a complete rheostat with radial lever, contacts and resistance. The resistance wire, reflexed to provide for expansion and to cover the surface adequately, is fastened to the molded pyroplax base and covered with a special cement. The single-plate rheostats are made in four sizes, approximately 6 inches, 10 inches, 12 inches and 15 inches in diameter. The front of the case is entirely enclosed in a well-ventilated, pressed steel frame, making it impossible to touch accidentally any live parts.

Trade No.	Description	Price Each
10082		170
10083		170
10084		170
10085		170
10086		170
10087		170
10088		170
10089		170
10090		170
10091		170

Trade No.	Description	Price Each
10092		170
10093		170
10094		170
10095		170
10096		170
10097		170
10098		170
10099		170
10100		170
10101		170

Trade No.	Description	Price Each
10102		170
10103		170
10104		170
10105		170
10106		170
10107		170
10108		170

\*On the 110-  
is given for one



## C-H SMALL THEATER DIMMERS

FOR THEATERS, LODGE ROOMS, CLUBS, HALLS, RESIDENCES, ETC.



These rheostats are used for inserting in lighting circuits for dimming lamps. Either one or two plates operated by a single lever are used. The standard dimmer is arranged for mounting flat against the wall or switchboard, with the operating lever in front. The bracket for edge-wise mounting will be provided when so ordered. Write for Bulletin No. 11311.

When absolutely flickerless dimming is required, the dimmers listed in Bulletin No. 11321 should be used.

### 110 Volts, Two-wire

Trade No.	Mfrs. No.	Total Wattage in Lamps	Max. Amps.	Total Ohms	No. of Steps	No. and Size of Plates Inches.	Wt., Lbs. Boxed	Price Each
199082	17001	200	1.75	200	24	1-10	20	\$9.00
199083	17002	360	3.15	110	24	1-10	20	9.00
199084	17003	500	4.4	80	24	1-10	20	9.00
199085	17004	660	5.7	60	40	1-12	25	11.00
199086	17005	900	7.8	44	40	1-12	25	11.00
199087	17006	1100	9.6	36	60	1-15	30	13.00
199088	17007	1320	11.5	30	60	1-15	30	13.00
199089	17008	1880	15.7	22	120	2-15	60	24.00
199090	17009	2200	19.1	18	120	2-15	60	24.00
199091	17010	2640	23	15	120	2-15	60	24.00

### 220 Volts, Two-wire

99092	17021	200	.87	800	24	1-10	20	9.00
99093	17022	360	1.56	450	24	1-10	20	9.00
99094	17023	500	2.2	320	24	1-10	20	9.00
99095	17024	660	2.9	240	40	1-12	25	11.00
99096	17025	900	3.9	180	40	1-12	25	11.00
99097	17026	1100	4.8	145	60	1-15	30	13.00
99098	17027	1320	5.8	121	60	1-15	30	13.00
99099	17028	1800	7.8	89	120	2-15	60	24.00
99100	17029	2200	9.6	73	120	2-15	60	24.00
99101	17030	2640	11.5	60	120	2-15	60	24.00

### \*110-220 Volts, Three-wire

99102	17041	400	1.75	200	24	2-10	40	14.00
99103	17042	720	3.15	110	24	2-10	40	14.00
99104	17043	1000	4.4	80	24	2-10	40	14.00
99105	17044	1320	5.7	60	40	2-12	50	19.00
99106	17045	1800	7.8	44	40	2-12	50	19.00
99107	17046	2200	9.6	36	60	2-15	60	24.00
99108	17047	2640	11.5	30	60	2-15	60	24.00

\*On the 110-220 volt, three-wire system the data under maximum amperes and total ohms, is given for one side only of a three-wire circuit.



## C-H SIMPLICITY THEATRE DIMMERS



Interlocking Type

## ELECTRICAL DATA—SINGLE DIMMERS

Total Wattage in Lamps	Two-WIRE—110 VOLTS			Three-WIRE—110-220 VOLTS		
	Type	Trade No.	Mfrs. No.	Type	Trade No.	Mfrs. No.
450	A	118921	30150	B	118947	30250
600	A	118922	30151	B	118948	30251
750	A	118923	30152	B	118949	30252
900	A	118924	30153	B	118950	30253
1200	A	118925	30154	B	118951	30254
1500	A	118926	30155	B	118952	30255
1800	A	118927	30156	B	118953	30256
2100	A	118928	30157	B	118954	30257
2400	A	118929	30158	B	118955	30258
2700	A	118930	30159	B	118956	30259
3000	A	118931	30160	B	118957	30260
3300	B	118932	30161	B	118958	30261
3600	B	118933	30162	B	118959	30262
4200	C	118934	30163	C	118960	30263
4800	C	118935	30164	C	118961	30264
5400	C	118936	30165	C	118962	30265
6000	C	118937	30166	C	118963	30266
6600	D	118938	30167	E	118964	30267
7200	E	118939	30168	E	118965	30268
8100	F	118940	30169	G	118966	30269
9000	F	118941	30170	G	118967	30270
9600	G	118942	30171	G	118968	30271
10200	H	118943	30172	I	118969	30272
10800	I	118944	30173	I	118970	30273
12000	I	118945	30174	I	118971	30274
13200	J	118946	30175	J	118972	30275

## ELECTRICAL DATA—COMBINATION DIMMERS

450	K	118973	30176	..	..	..
600	K	118974	30177	..	..	..
750	K	118975	30178	..	..	..
900	K	118976	30179	..	..	..
1200	K	118977	30180	..	..	..
1500	K	118978	30181	..	..	..
1800	K	118979	30182	..	..	..
4200	L	118980	30183	..	..	..
4800	L	118981	30184	..	..	..
5400	M	118982	30185	..	..	..



Fig. 1

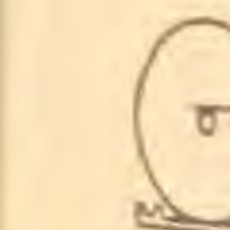
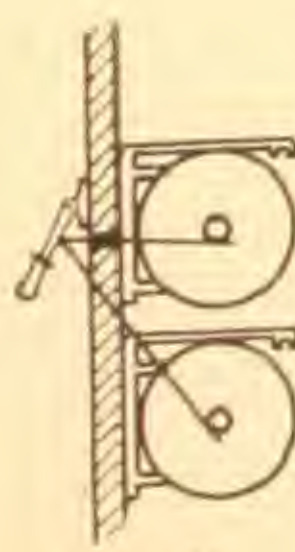
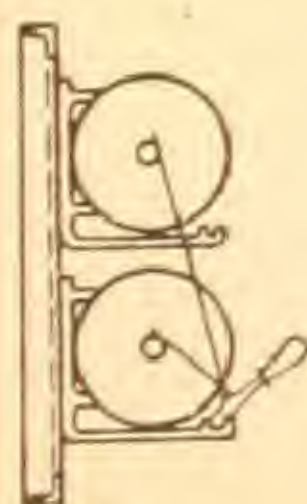
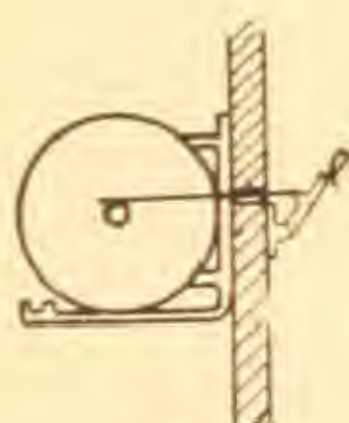
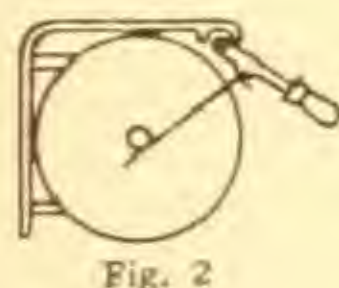
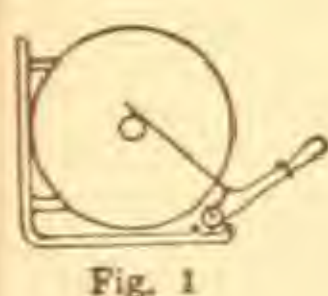
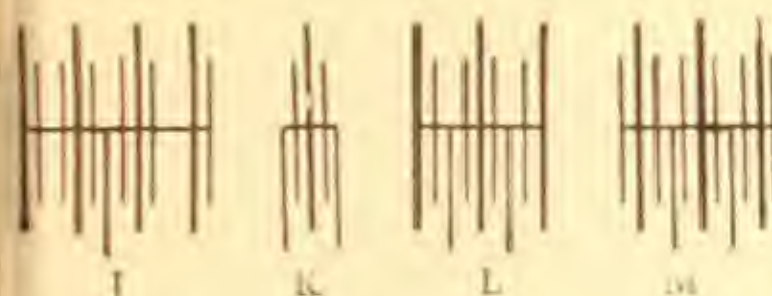
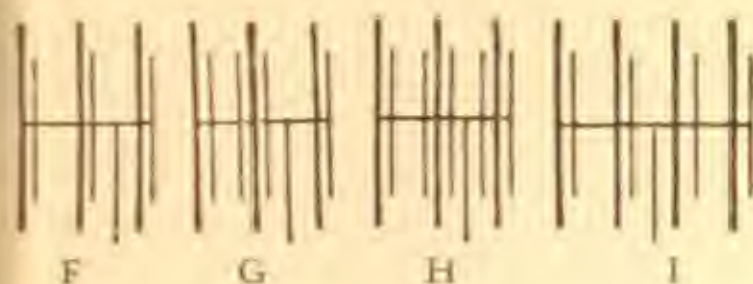
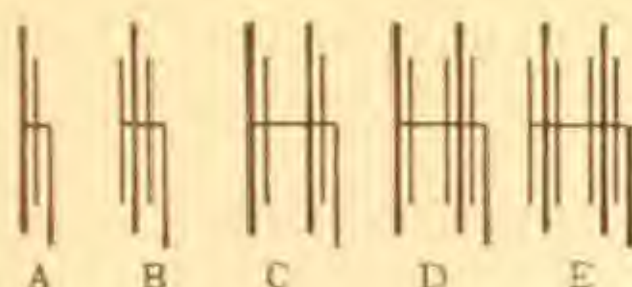


Fig. 25



# C-H SIMPLICITY THEATRE DIMMERS



## INTERLOCKING TYPE

Trade No.	Type	Ship. Wt. Lbs. per Dimmer	Price Each Figs. 1 or 2	Trade No.	Type	Ship. Wt. Lbs. per Dimmer	Price Each Figs. 1 or 2
119286	A	60	\$40.00	119293	H	180	\$136.00
119287	B	60	52.00	119294	I	240	150.00
119288	C	120	77.00	119295	J	240	172.00
119289	D	120	88.00	119296	K	60	57.00
119290	E	120	99.00	119297	L	180	128.00
119291	F	180	113.00	119298	M	180	151.00
119292	G	180	124.00				

The above prices cover dimmers banked in a frame only when six or more plates are ordered banked in one row. When less than these numbers of plates are ordered add \$18.00 to the list price of the bank.

The above prices for interlocking dimmers include a master lever for every six plates. When more master levers are desired, add \$10.00 to list for each extra lever.

If non-interlocking dimmers are desired, deduct \$1.00 from list price for Types A to J and \$2.00 for Types K to M.

The shipping weight per dimmer given in the above table is an average value which must be multiplied by the number of dimmers in a bank to obtain the approximate shipping weight of the bank.

The above prices apply to Fig. 1 and Fig. 2 constructions only. These two styles of construction will be found applicable in by far the greater number of installations.

Sometimes, however, structural limitations or the appearance of the dimmer bank render it desirable to employ other types of construction. Five of the different types frequently used are illustrated on this page. Briefly, the plates in these dimmers may be arranged in one, two, or three rows (or more if desired) with operating levers assembled either above the plates or below them. They may be arranged for mounting on the front of the switch-board in plain view or may be installed behind the board with only the operating levers visible.

In some installations the location of the dimmer bank prevents the operator from seeing the lamps and therefore not knowing to what extent they are dimmed. An indicator can be mounted at the dimmer and provided with a scale which enables the operator to readily determine the brilliancy of the lamps. Each dimmer in a bank may be provided with one of these indicators; \$2.00 should be added for each plate to be so equipped.

These dimmers are provided with 110 steps of resistor and will dim Mazda B or C Tungsten lamps completely out without flicker when used at the rated voltage and wattage.

Types K, L, and M are known as combination dimmers and consist of either one or three plates with two operating levers. These levers control independent sections of resistor, thereby giving two complete dimmers in less space than that required by two single dimmers selected for the same circuit.

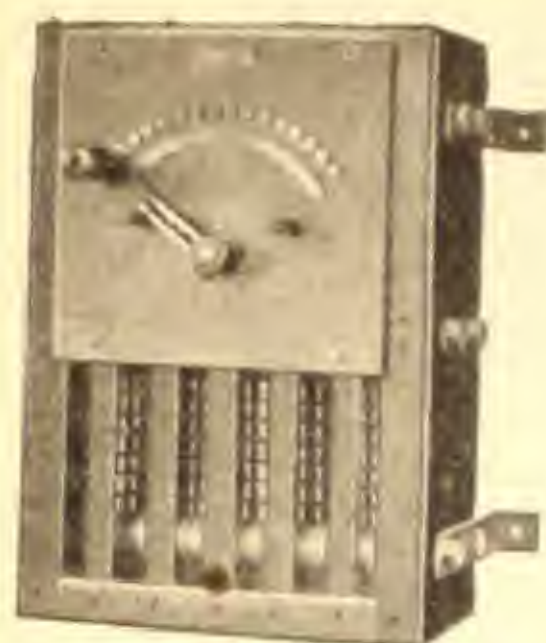
Standard dimmers are intended for use where the dimmer is in circuit for short periods only and are given the maximum rating on which the dimmers will give good life for this class of service. For continuous duty dimmers following ratings must not be exceeded: single-sided plate, 1800 watts; double-sided plate, 2200 watts.

For further information, write for Bulletin No. 11321.



## C-H BATTERY CHARGING RHEOSTATS

115 VOLTS, DIRECT CURRENT



Type A



Type B



Type C

Type A rheostat is designed for front-of-switchboard mounting or for wall mounting. It is primarily intended for use in private charging stations, but may also be used in garages where it is desired to mount a rheostat at each charging plug.

Type B is similar to Type A, except that it is designed for mounting on back of switchboard, the operating shaft extending through to the face of the board. Copper handwheel and dial for mounting on front of switchboard are furnished with this rheostat.

Type C is intended to rest on the floor and is usually installed beneath the switchboard. It is particularly suitable for use in garages where it is desired to assemble a number of charging rheostats in a limited space.

## RHEOSTATS FOR LEAD CELLS

Trade No.	Mfrs No.	No. of Cells in Series	AMPERES		Resis. Ohms	No. Steps	PRICE, EACH		
			Max.	Min.			Type A	Type B	Type C
022909	115	12-18	15	5	17	13	\$50.00	\$57.00	\$51.00
022910	120	12-18	20	5	17	13	60.00	67.00	62.00
022911	220	20-28	20	5	13	13	52.00	59.00	54.00
022912	330	30-44	30	10	3.70	16	46.00	51.00	42.00
022913	331	36-44	30	10	2.50	16	38.00	44.00	39.00
022914	341	36-44	40	10	2.50	16	46.00	51.00	42.00
022915	430	40-44	30	10	1.50	16	36.00	41.00	37.00
022916	440	40-44	40	10	1.30	16	34.00	40.00	36.00
022917	450	40-44	50	12	1.10	16	39.00	46.00	40.00
022918	460	40-44	60	15	.90	16	46.00	51.00	47.00

## RHEOSTATS RECOMMENDED FOR USE IN GARAGES

022919	121	12-28	20	5	17	16	61.00	68.00	63.00
022920	360	30-44	30	10	1	16	57.00	62.00	57.00
		36-44	40	10					
		40-44	60	10					
022921	160	1-44	10	6	17	25	97.00	103.00	99.00
		12-44	20	5					
		30-44	30	10					
		36-44	40	10					
		40-44	60	10					

The electric data given in above table is based on the assumption that the line potential does not exceed 115 volts. If the potential is higher than this the voltage should be stated, as in many cases the conditions would necessitate the use of a special rheostat.

For complete information write for Bulletin No. 11410.

Rheostats for Edison Batteries at slightly different prices.



# C-H BATTERY CHARGING RHEOSTATS

115 Volts, Direct Current



Type E



Type F

Types E and F rheostats are designed for use in small private garages where but one or two vehicles are to be charged, and an equipment having automatic protective features is desired.

With the exception of the duplex ammeter and voltmeter on Type E, the two types are identical.

These rheostats provide for short circuit, overload and reverse current protection. When used in connection with ampere-hour meters, a relay can be supplied to open the magnetic switch at the finish of charge.

## RHEOSTATS FOR LEAD CELLS

Trade No.	Mfrs. No.	No. Cells in Series	AMPERES		Type E		Type F	
			Max.	Min.	Wt., Lbs. Boxed	Price Each	Wt., Lbs. Boxed	Price Each
54944	1115	12-18	15	5	260	\$193.00	195	\$123.00
54945	1120	12-18	20	5	260	192.00	195	122.00
54946	1220	20-28	20	5	255	189.00	190	119.00
54947	1330	30-36	30	10	255	180.00	190	110.00
54948	1331	30-36	30	6	255	183.00	190	113.00
54949	1430	40-44	30	10	250	177.00	185	107.00
54950	1446	40-44	45	9	250	177.00	185	107.00
54951	1461	40-44	60	12	250	194.00	185	124.00

## RHEOSTATS FOR EDISON CELLS

54952	510	20-24	45	45	265	186.00	200	116.00
54953	512	20-24	90	45	295	222.00	230	152.00
54954	560	30-36	45	45	260	182.00	195	112.00
54955	562	30-36	90	45	285	214.00	220	141.00
54956	647	40-60	90	45	270	207.00	205	137.00
54957	661	40-60	90	60	265	203.00	200	133.00
54958	747	48-60	90	45	260	199.00	195	129.00
54959	761	48-60	90	60	255	197.00	190	127.00
54960	847	60	90	45	250	194.00	185	124.00
54961	861	60	90	60	250	194.00	185	124.00

The electric data given in this table is based on the assumption that the line potential does not exceed 115 volts. If the potential is higher than this the voltage should be stated, as in many cases the condition would necessitate the use of a special rheostat.

For complete information, write for Bulletin 11412.



C-H RHEOSTATS AND REGULATORS  
LOAD RHEOSTATSDIRECT OR ALTERNATING CURRENT  
Portable Type—for Meter Testing, Etc.

Bench Type

These rheostats are especially designed for providing an artificial load for checking individual meters with a standard meter. They consist essentially of a number of steps of resistance, any one or all of which may be connected across the line by closing compact knife switches located on the side of the frame. The resistor consists of a number of flat cement-covered units especially designed for minimum weight and to be operated at high temperatures. These are mounted in a light, compact frame provided with feet for supporting it in a horizontal position.

These rheostats are intended to be connected directly across the line. The current must not be applied unless the rheostat is supported upon its feet in a horizontal position, permitting a free flow of air up through the units. In this position the current may be left on any number of switches indefinitely.

## Bench Type

Trade No.	Mfrs. No.	Volts	AMPERES		Amp. Increments	No. of Switches	DIMENSIONS, INCHES					Wt., Lbs. Boxed	Price Each
			Min.	Max.			FOLDED		OPEN				
							Width	Depth	Height	Top Area	Height		
118655	1800	115	50	10	.50	4	9	5	10	9x9	8	20	\$27.00
118656	1801	{ 115 230	25 25	20 10	.25	6	12	5	15	11x12	10	30	33.00
118657	1802	600	50	4	.50	4	12	5	15	11x12	10	30	33.00
Floor Type													
118658	1803	{ 115 230	25 25	50 25	.25	8	14	5	20	14x17	20	50	50.00
118659	1804	600	50	10	.50	6	14	5	20	14x17	20	50	51.00
Write for Bulletin No. 11205													

Write for Bulletin No. 11205.

## CIRCULAR PLATE SPEED REGULATORS

For Motors Not Exceeding  $\frac{1}{2}$  Horsepower

These regulators have been developed primarily for use as a means of varying the speed of small motors such as are now employed for operating small blowers, fans, buffers, adding and copying machines, jewelers' and dentists' lathes and drills, sewing machines, washing machines, etc.

They operate by means of a simple sliding lever. If the first contact is an "off" point, the motor will be started on the second. Without an "off" point there are seven running positions in the 6-inch size and ten on the 9-inch size. The resistance is moisture-proof and dust-proof, the resistor wire being

wound on a flat porcelain core and imbedded in a special cement.

These devices are used also as field regulators, dimmers for lighting circuits, heating coil regulators, in connection with plating baths, etc.

The limitations in standard design are as follows:

Size	6-inch	9-inch
Maximum watt capacity	125	225
Maximum resistance per step, ohms	150	250
Maximum amperes	10	10
Maximum voltage of circuit	250	250

MACHINE TYPE		FAN TYPE		Size Inches	Horse-power	Shipping Wt., Lbs.	Price Each
TRADE NOS.		TRADE NOS.					
115 Volts	230 Volts	115 Volts	230 Volts				
068443	068450	068457	068464	6	$\frac{1}{20}$	3	\$2.65
068442	068449	068456	068463	6	$\frac{1}{16}$	3	2.65
068441	068448	068455	068462	6	$\frac{1}{12}$	3	2.65
068440	068447	068454	068461	6	$\frac{1}{10}$	3	2.65
068439	068446	068453	068460	6	$\frac{1}{8}$	3	2.65
068438	068445	068452	068459	6	$\frac{1}{4}$	3	2.65
068437	068444	068451	068458	6	$\frac{1}{6}$	3	2.65
118643	118646	118649	118652	9	$\frac{1}{5}$	6	4.90
118644	118647	118650	118653	9	$\frac{1}{4}$	6	4.90
118645	118648	118651	118654	9	$\frac{1}{3}$	6	4.90

NOTE.—Always specify whether or not an "off" point is desired.  
Write for Bulletin No. 3290.



Open Showing Arrangement



Enclosed



Ferrule T



Edison Base



## C-H UNIT TYPE RESISTORS

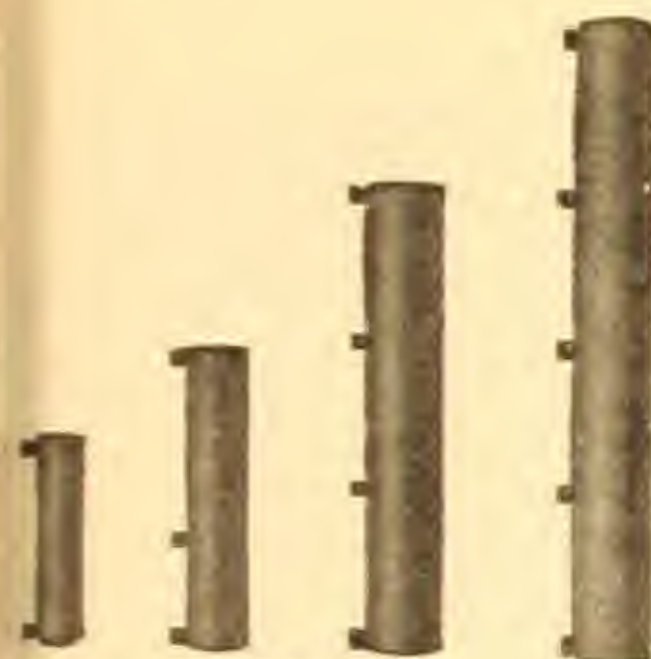
C-H Unit Resistors are designed for use wherever a compact, protected, self-contained resistor of small size is desired.

The open type, while not fully enclosed, are nevertheless reasonably well protected by a heavy insulating coating of a special cement capable of resisting ordinary mechanical and moisture influences. The ohmic value of the larger sizes is high and on these sizes terminals dividing the resistance can be provided.

The enclosed type possesses the added protection of a metal enclosing cylinder making it particularly useful in resisting the attacks of acid and considerable moisture. This type is provided with feet and has but two terminals.

The ferrule type is most advantageously used where quick renewal of units is desired, there being no terminals to connect.

The Edison Screw Base Type can be inserted in standard Edison Lamp and Receptacle Screw Shells, and because of its sturdy construction and long life, is replacing lamps in use as resistors.



Open Type  
Showing Standard  
Arrangement of Terminals



Enclosed Type

### OPEN TYPE

Trade No.	Continuous Watts	Size, Length	Inches, Diam.	Max. Ohms	Min. Ohms	Net Weight	Price Each
51778	25	2	$\frac{7}{8}$	1000	1	3 oz.	\$0.65
51779	40	4	$\frac{7}{8}$	2000	2	5 oz.	.80
51780	75	$5\frac{3}{4}$	$1\frac{1}{8}$	4000	4	9 oz.	1.00
51781	150	9	$1\frac{3}{8}$	8000	6	$1\frac{1}{4}$ lbs.	1.55
51782	210	12	$1\frac{1}{2}$	12500	10	$1\frac{3}{4}$ lbs.	2.10

The above prices are for units with two terminals. Add ten cents each for additional terminals and specify ohms per step, if unequal steps are required.

### ENCLOSED TYPE

51783	60	$7\frac{1}{2}$	2	4000	.4	1 lb.	2.10
51784	115	$10\frac{3}{4}$	$2\frac{1}{2}$	8000	.6	$2\frac{1}{4}$ lbs.	2.70
51785	160	$13\frac{3}{4}$	$2\frac{1}{2}$	12500	1.0	3 lbs.	3.30

The above prices are for units with two terminals. Add 20 cents each for additional terminals up to a maximum total of five on 115 and 160-watt units, and specify ohms per step, if unequal steps are required. Extra terminals cannot be furnished on 60-watt units.



Ferrule Type

### FERRULE TYPE

51786	100	9	1	5000	1.0	10 oz.	1.65
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Spring contact clips for these units will be furnished for 10 cents each. Ferrule type units cannot be furnished with intermediate terminals.

### SCREW BASE TYPE

51787	40	$5\frac{1}{2}$	$1\frac{1}{8}$	800	2	4 oz.	1.10
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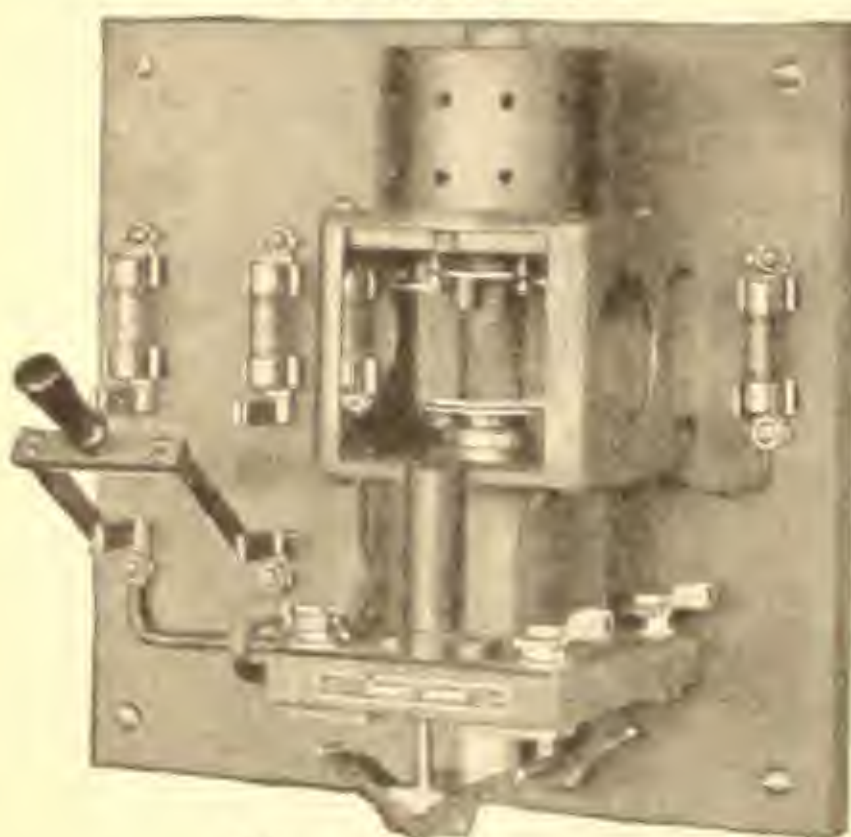
Edison Base Type

These units fit any standard Edison screw shell. They cannot be furnished with intermediate terminals.





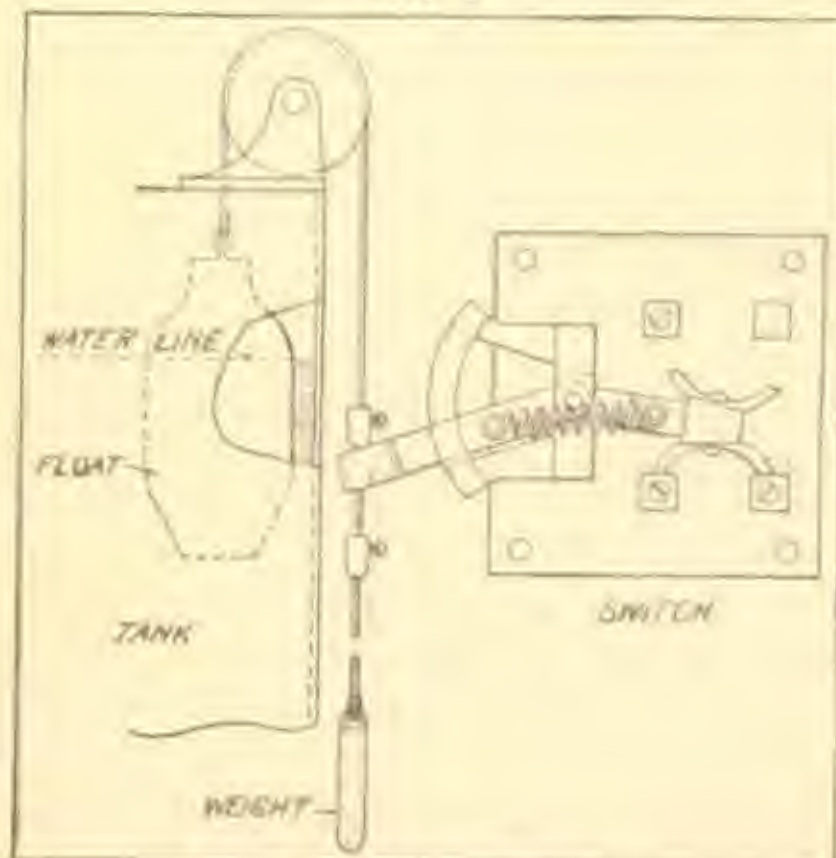
No. 79, Type F-1



No. 605, Type A



No. 9



No. 72 Tank Switch

## SWITCHES

## REMOTE CONTROL SWITCHES

## TYPE F-1

The Type F-1 remote control switches are for operation on direct or alternating current for potentials not exceeding 250 volts D. C. or 440 volts A. C.

This type of remote control switch is suited for all classes of service where it is expedient to install magnetically operated switches. The locking mechanism and magnets are entirely enclosed in an iron housing and its positive action, rigid construction, and compactness of design mark a very decided improvement in the manufacture of this class of apparatus.

The switch may be operated either by push button or automatic control circuit closers, operating at line potential or otherwise, its use permitting the instant control of lights or other electrical devices from any desired number of points.

## Double-pole—Single-throw

Trade No.	Mfrs. No.	Cap. Amps.	Price Each
045481	730	5-30	\$36.00
045482	740	60	48.00
045483	750	75	60.00
045484	760	100	93.00
045485	770	150	108.00
045486	780	200	122.40

## Triple-pole—Single-throw

Trade No.	Mfrs. No.	Cap. Amps.	Price Each
045490	790	5-30	43.20
045491	800	60	54.00
045492	810	75	67.20
045493	820	100	108.00
045494	830	150	124.80
045495	840	200	139.20

## Four-pole—Single-throw

Trade No.	Mfrs. No.	Cap. Amps.	Price Each
69164	610	30	54.00
69165	620	60	68.00
69166	630	75	112.00
69167	640	100	128.00

## TYPE A

## CONTINUOUS CURRENT—NO-VOLTAGE RELEASE

For the remote control of small motors, for vacuum cleaners, automatic elevators, etc.

## Double-pole

Trade No.	Mfrs. No.	Cap. Amps.	Price Each
69168	605	30	48.00
69169	615	60	54.00

## Triple-pole

Trade No.	Mfrs. No.	Cap. Amps.	Price Each
69170	625	30	60.00
69171	635	60	68.00

## No. 9 MOMENTARY CONTACT SWITCHES

This switch is arranged so that when the button is pressed a snap contact is made and a snap break is obtained when button is released. It fits a standard wall case, uses a standard gang plate, and can be furnished either push button or key.

045623	9	Switch with plate	2.75
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## TANK SWITCHES

The tank switch has an earthenware float not affected by acids or alkalis. The switch is double-throw, having a capacity of 10 amperes at either 220 or 110 volts, and may be used as a high or low water alarm, to control motors within its capacity or control the remote control switch.

## With Float

69172	72		25.00
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## Without Float

69173	72		15.00
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# C-H REMOTE CONTROL SWITCHES

## SCHEDULE C

### MAGNETICALLY OPERATED—MECHANICALLY LOCKED

Single-pole—100 Amperes, 115 Volts; 50 Amperes, 230 Volts

Double and Triple Pole—100 Amperes, 230 Volts.



No. 7062

The C-H Remote Control Switch is designed for the central control of lighting circuits located at a distance from the controlling button or buttons. It is especially adapted for use in large buildings, libraries, theaters, halls, stores, etc., where control of some or all of the circuits of a certain floor or section of the building from a central point is desired.

A wiping effect given to the contacts every time the switch is closed, keeps the contact surfaces clean and insures a good contact at all times.

The switch is opened and closed by electro-magnets and controlled by one or more momentary contact push button switches which are normally in the open position and remain closed only when held by the operator. No current is used when closed because the switch is mechanically held by a latch which is tripped when the opening coil is energized.

Attention is called to the dimensions of the switch which are such as to permit its installation in a standard wall box. The depth of the switch open from the face of the slate panel is  $3\frac{3}{4}$  inches and from the back of the panel,  $4\frac{5}{8}$  inches.

There are many possible uses of C-H Remote Control switches. The closing or opening of the remote control switch may be accomplished from a small push type wall switch located at some distant point, in another room or section of a building, for instance. Where desired, one remote control switch may be operated from more than one wall switch. The switch can also be operated manually.

The capacity (100 amperes) is sufficient for taking care of large number of lighting circuits; the common method being to control all branch circuits of each distributing panel by means of the remote control switch.

## DIRECT CURRENT

### 115-230 Volts

Trade No.	Mfrs. No.	Poles	Wt., Lbs. Boxed	Price Each
4480	7060	Single	17	\$32.00
4481	7061	Double	18	40.00
4482	7062	Triple	20	48.00

## ALTERNATING CURRENT

### 110-220 Volts

Trade No.	Mfrs. No.	Poles	Wt., Lbs. Boxed	Price Each
4483	7063	Single	17	32.00
4484	7064	Double	18	40.00
4485	7065	Triple	20	48.00

Standard finish of the contacts polished copper. The mechanism and slate base are dull black.

Alternating current switches furnished for 25 or 60 cycles, specify frequency and voltage when ordering.

Mfrs. No. includes switch complete, with one two-circuit momentary contact push-button control switch, Mfrs. No. C-H 7066 and one flush plate.

Deduct \$3.80 from list prices given above when switch is supplied without push-button control switch. Extra push-button control switches can be supplied at \$3.80 per switch.

Push-button control switch, No. C-H 7067 arranged for locking is listed at \$4.30.

All remote control lighting switches Nos. 7060 to 7065 are rated at 50 amperes per pole at 115 or 230 volts, when used with Type C gas filled lamps.



No. 7066



# BRASS WOOD SCREWS



Round Head



Flat Head

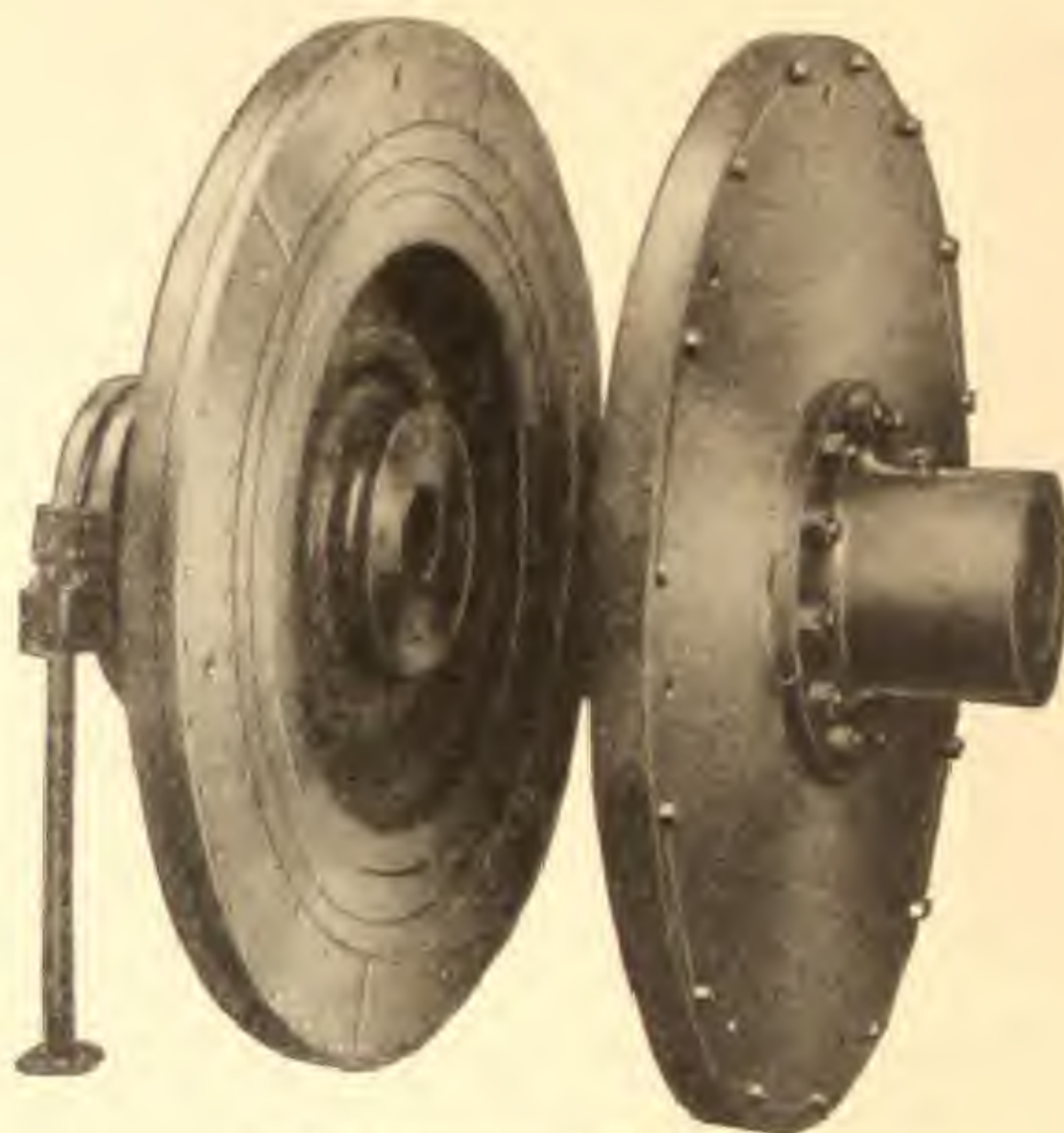
## PRICE, PER GROSS

No. of Screw	LENGTH OF SCREW, INCHES									
	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4
0	\$0.84	\$0.84	....	....	....	....	....	....	....	....
1	.84	.87	.92	.96	....	....	....	....	....	....
2	.88	.92	.96	1.00	1.12	1.40	....	....	....	....
3	.92	.97	1.02	1.08	1.18	1.50	1.65	2.10	....	....
4	.97	1.04	1.08	1.15	1.25	1.55	1.70	2.20	2.95	....
5	1.04	1.12	1.20	1.30	1.40	1.60	1.75	2.25	3.05	....
6	....	1.20	1.30	1.40	1.55	1.65	1.80	2.35	3.10	3.95
7	....	1.35	1.45	1.60	1.75	1.90	2.10	2.45	3.20	4.00
8	....	1.50	1.65	1.85	2.00	2.20	2.45	2.85	3.30	4.10
9	....	....	1.90	2.10	2.30	2.50	2.80	3.20	3.65	4.20
10	....	....	2.15	2.40	2.65	2.90	3.15	3.50	4.25	4.70
11	....	....	....	2.65	3.00	3.35	3.65	4.10	4.65	5.35
12	....	....	....	3.00	3.35	3.70	4.10	4.65	5.35	6.05
13	....	....	....	3.35	3.70	4.10	4.55	5.35	5.95	6.70
14	....	....	....	3.70	4.10	4.55	5.05	5.85	6.65	7.35
15	....	....	....	4.10	4.55	5.05	5.60	6.55	7.60	8.65
16	....	....	....	4.55	5.05	5.60	6.65	7.20	8.35	9.50
17	....	....	....	....	....	....	....	7.85	9.15	10.45
18	....	....	....	....	....	....	7.40	9.35	10.85	12.40
20	....	....	....	....	....	....	....	10.45	12.65	14.50
22	....	....	....	....	....	....	....	....	14.50	16.85
24	....	....	....	....	....	....	....	....	....	18.90

No. of Screw	LENGTH OF SCREW, INCHES									
	2	2 1/4	2 1/2	2 3/4	3	3 1/2	4	4 1/2	5	6
6	\$5.15	....	....	....	....	....	....	....	....	....
7	5.20	....	....	....	....	....	....	....	....	....
8	5.25	6.85	....	....	....	....	....	....	....	....
9	5.30	6.95	9.40	11.50	....	....	....	....	....	....
10	5.40	7.05	9.50	11.65	13.70	15.85	....	....	....	....
11	6.15	7.25	9.60	11.80	13.85	16.00	....	....	....	....
12	6.85	7.90	9.70	11.95	14.00	16.15	18.60	....	....	....
13	7.55	8.80	9.85	12.10	14.10	16.30	18.80	....	....	....
14	8.45	9.80	10.75	12.25	14.30	16.45	19.00	22.60	....	....
15	9.75	10.75	11.85	13.00	14.60	16.60	19.25	22.80	....	....
16	10.70	11.90	13.00	14.20	15.40	17.70	20.35	23.40	26.90	31.00
17	11.70	13.00	14.30	15.65	16.80	19.40	22.30	25.75	29.60	34.05
18	13.90	15.40	16.95	18.40	19.95	22.75	26.90	30.90	35.50	40.80
20	16.30	18.00	19.85	21.60	23.40	26.90	30.80	35.40	40.70	46.80
22	18.90	20.95	23.00	25.00	27.10	31.20	36.00	41.40	47.60	54.75
24	21.00	23.30	25.50	28.00	31.15	35.80	40.70	46.80	53.80	61.90
26	....	....	....	....	35.85	41.20	47.35	54.40	62.60	72.95
28	....	....	....	....	41.15	47.45	54.55	62.70	72.15	82.95
30	....	....	....	....	47.45	54.55	62.70	72.15	82.95	93.35



## C-H MAGNETIC CLUTCHES



Exploded View of C-H Magnetic Clutch  
Showing Armature Member at Right  
and Field Member at Left

The direct pull of an electro-magnet holds together the friction surfaces of a C-H Magnetic Clutch. Like other types of clutches, this clutch is used for connecting and disconnecting machinery from its source of power.

When the circuit through the electro-magnet is closed, the clutch is engaged; when it is open the clutch is disengaged. One member of the clutch contains the magnet coil which, when energized by an electric current, pulls the other member into contact with it. The contact is made on a friction surface, which is carried by a flange on the outside of the first member. As long as the electro-magnet is energized the two members rotate as a unit. When no current is flowing through the coil, the two members stand a short distance apart and a positive running clearance is provided.

C-H Magnetic Clutches are used in many different industries and for many different purposes. They are built in sizes from 7 inches in diameter to 78 inches in diameter and are used to transmit from 1 to 2000 horsepower.

The principle features of C-H Magnetic Clutches may be summed up as follows:

- 1.—Direct magnet action—results in a simple compact structure with no toggles, levers, etc., to wear or get out of order.
- 2.—Ease of operation—only necessary to close or open a switch to engage or disengage the clutch. This switch may be located at any convenient distance from the clutch and may be operated either manually or automatically.
- 3.—Smooth acceleration—in the short interval of time necessary for the magnetic pull to build up to its full strength the friction surfaces engage gradually, there being sufficient slip to secure a smooth start.
- 4.—No end thrust—no end or side thrust is transmitted to the shafts or connected machinery. The magnet pull balances the pressure between the friction surfaces.
- 5.—Fixed capacity—for each size of clutch there is a fixed capacity depending on the known pull of the magnet. The clutch cannot be adjusted so that it will lock. The clutch capacity is not affected by centrifugal forces; therefore clutches may be run at high speeds when required.

Prices Quoted Upon Application



## C-H LIFTING MAGNETS

### CIRCULAR TYPE



C-H Magnets speed up production by the quick handling of materials, pig iron, scrap, castings, billets, tubes, rails, plates, crop-ends, all sorts of magnetic material. This handling includes the transfer of material in and out of the stockroom and stockyard, the loading and unloading of freight cars and cargo vessels, and carrying of castings and individual pieces from place to place around the works. No chains, grappling hooks, or other mechanical means for picking up the load are necessary. The magnet is lowered to its load, the current switched on, and the magnet lifted with its load securely held in place. Dropping the magnet load is likewise a matter of a moment—just enough time to swing the magnet into place and cut off the magnetizing current. The speed with which material can be handled is limited only by the speed with which the crane or hoist can be operated.

In the quick handling of materials, and in the prompt loading and unloading of freight cars with an absolute minimum of labor, C-H Magnets are materially reducing the handling costs of hundreds of manufacturers. The operating costs—cost of electric power, the wages of the crane operator and sometimes a helper—are low compared with the work done. As to overhead charges, we know of C-H Magnet installations which have saved their initial cost every two weeks.

Circular type magnets are designed especially for handling raw material and stock of irregular size and shape, although they can be used just as readily for handling finished product. Generally speaking, however, where finished product and regular shapes are handled exclusively, Rectangular type Magnets will handle this work more efficiently.

**CONSTRUCTION.**—The frames of C-H Magnets are made of a special grade of dynamo steel which combines great strength and ductility with excellent magnetic qualities. Heavy lugs for the suspension chains are cast integral with the frame. The terminal box to protect the leads is so a part of the frame casting.

The coils for the larger magnets (36-inch and up) are made up of alternate turns of copper tape and fireproof insulating ribbon—a method of construction by which the maximum number of ampere turns (holding power) can be located in the space available.

The exclusive patented spool construction of these magnets is of particular advantage because it adds no extra weight of useless material to the magnet; it permits a shorter mean length of turn in the coil winding; it cuts magnetic leakage to a minimum; it insures maximum lifting capacity. An absolutely tight joint between the spool and the magnet case eliminates all dead air spaces and greatly facilitates the rapid radiation of heat.

Both the inner and outer pole shoes are rugged steel castings, secured to the magnet frame through bolts. This is a highly important construction point, as the pole shoes are sure to receive considerable wear. Their easy renewal is vital. The through bolts can be removed with comparative ease no matter what the condition of their heads.

No combustible material whatever is used in the construction of C-H Magnets. In tests at a factory, C-H Magnet Coils have been heated to 470 F., without injury. Consequently there is no danger of injuring them if by accident they are left in circuit over night.

A highly important feature of C-H Magnets is their weather-proof construction.

To secure absolutely moisture-proof construction, C-H Magnets are first fully assembled with all parts in their proper position are subjected to a baking process until all traces of moisture in the interior of the magnet are eliminated. Air is then exhausted from the magnet casing by a vacuum process and a hot liquid filler is forced into the interior under a heavy pressure. This filler permeates every crevice of the magnet and on cooling hardens and forms a permanent, elastic, air-tight seal, which possesses high moisture repelling and excellent insulating properties. C-H Magnets so sealed have been operated under 35 pounds external hydrostatic pressure per square inch without fracture of the seal.

Prices Quoted Upon Application



## WESTON PORTABLE INSTRUMENTS

FOR DIRECT CURRENT  
MODEL 1

Voltmeter



Volt-ammeter

## VOLTMETERS

## Single Range

Trade No.	Range in Volts	No. of Scale Divisions	Price Each	Trade No.	Range in Volts	No. of Scale Divisions	Price Each
182640	3	150	\$72.00	182646	250	125	\$81.25
182641	15	150	72.00	182647	300	150	81.25
182642	50	100	72.00	182648	500	100	81.25
182643	75	150	72.00	182649	600	120	81.25
182644	150	150	*68.75	182650	750	150	87.50
182645	150	150	72.00				

## Double Range

182651	{ 15 } { 3 }	150	93.75	182655	{ 300 } { 150 }	150	97.00
182652	{ 150 } { 3 }	150	93.75	182656	{ 500 } { 250 }	125	100.00
182653	{ 150 } { 15 }	150	93.75	182657	{ 600 } { 150 }	150	100.00
182654	{ 150 } { 75 }	150	93.75	182658	{ 600 } { 300 }	150	100.00
				182659	{ 750 } { 150 }	150	100.00

## Triple Range

182660	{ 150 } { 15 } { 3 }	150	106.25	182662	{ 750 } { 300 } { 150 }	150	112.50
182661	{ 300 } { 150 } { 3 }	150	109.50				

Single and double range instruments are furnished with locking contact and key. Triple range instruments do not have contact key.

Single and double range instruments will be provided with a reversing switch instead of contact key at an additional cost of \$3.25.

\*Furnished without contact key.

## AMMETERS

## Single Range

Trade No.	Range in Amperes	No. of Scale Divisions	Price Each	Trade No.	Range in Amperes	No. of Scale Divisions	Price Each
182663	1	100	\$81.25	182672	50	100	\$81.25
182664	1.5	150	81.25	182673	100	100	87.75
182665	2	100	81.25	182674	150	150	93.75
182666	2.5	125	81.25	182675	200	100	100.00
182667	3	150	81.25	182676	250	125	100.00
182668	5	100	81.25	182677	300	150	100.00
182669	10	100	81.25	182678	400	80	112.50
182670	15	150	81.25	182679	500	100	112.50
182671	25	125	81.25				

## VOLT-AMMETERS

Trade No.	Range in Volts	Range in Amperes	No. of Scale Divisions	Price Each
182680	150	1.5	150	\$93.75
182681	150	3	150	93.75

Model 1 voltammeters of other ranges will be made on special order.

Trade No. 182171

1

Trade No. 182172

2

Trade No. 182173

3

Trade No. 182174

4

These instruments are additional



# WESTON PORTABLE INSTRUMENTS

FOR DIRECT CURRENT



Milli-voltmeter

## PORTABLE MILLI-VOLTMETERS

Model 1

Trade No.	Mfrs No.		Price Each
063171	1	Range, 0 to 20 milli-volts, 100 divisions, each representing .2 of a milli-volt, readable to .02 of a milli-volt.	\$62.50
063172	2	Range, 10 to 0 to 10 milli-volts, zero center, 100 divisions, each representing .2 of a milli-volt, readable to .02 of a milli-volt.	62.50
063173	3	Double range, 10 to 0 to 10 and 100 to 0 to 100 milli-volt, zero center, 100 divisions, supplied with contact key, by the use of which either range may be employed.	68.75
063174	4	Double range, 0 to 20 and 0 to 200 milli-volts, three binding posts, 100 divisions, each representing either .2 of a milli-volt or 2 milli-volts, according to range used.	68.75

These instruments may be arranged for use with alloy shunts for ampere measurements at an additional cost of \$6.25

## PORTABLE MILLI-AMMETERS



Single Range

Trade No.	Mfrs No.	Range Milli-amperes	Price Each
063175	0	150	\$62.50
063176	1	300	62.50
063179	4	1500	68.75

Double Range

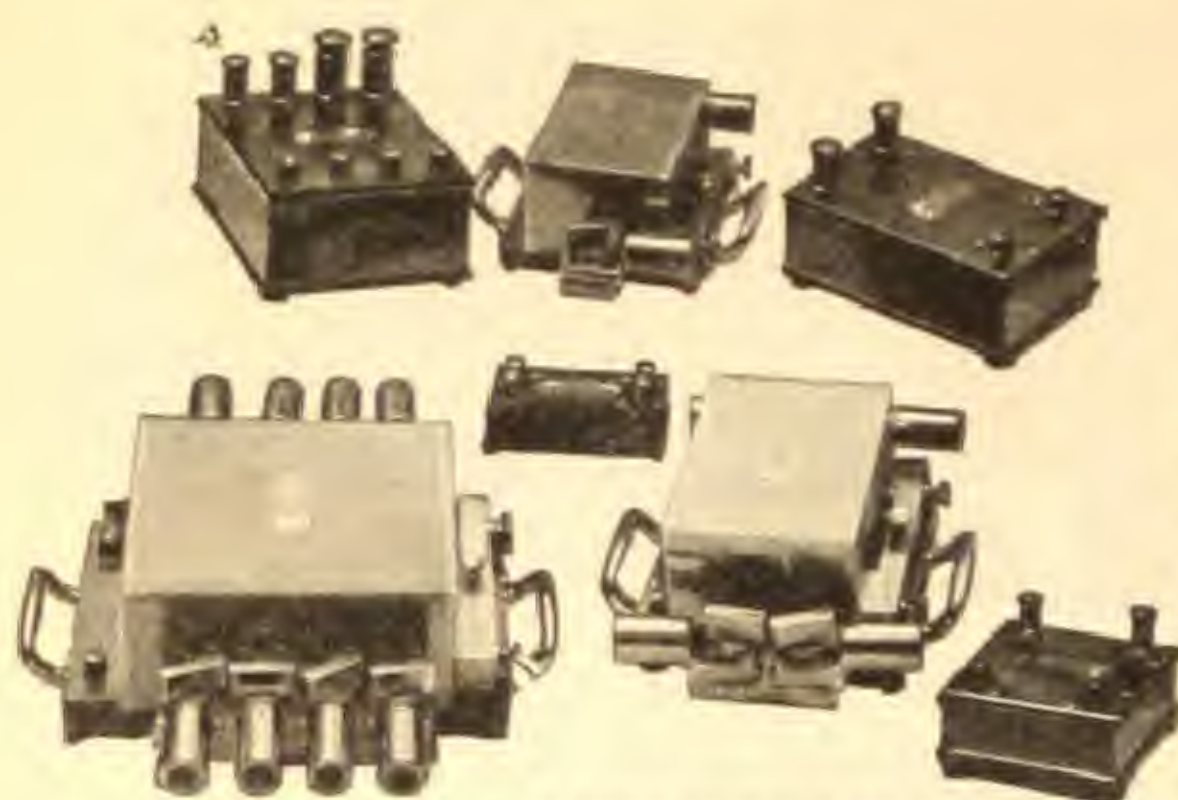
Trade No.	Mfrs No.	Range Milli-amperes	Price Each
063180	5	500 50	75.00
063181	6	500 10	75.00
063182	7	500 10	93.75

No. 7 has same range and capacity as No. 6 but is supplied with a small resistance box or multiplier, having two coils. When this is connected in series with the instrument binding posts marked 10, the lower scale may be read directly in volts, a full scale deflection being secured with 0 or 100 volts, according to the coil of the multiplier used.



## WESTON PORTABLE INSTRUMENTS

FOR DIRECT CURRENT



Standard Portable Special Alloy Shunts

thus saving the expense of an additional instrument. The scales of the instrument can be divided into 100, 120 or 150 divisions. In selecting shunts of different range for use in connection with one instrument, it should be considered that the higher ranges must be even multiples of the lower one in order to suit the same scale on the instrument.

These shunts can be supplied in two or more ranges combined in one case, as indicated in price list below.

## MILLIVOLTMETERS, MODEL 1

With Shunts for Ampere Measurements

These millivoltmeters, in connection with Weston Patent Alloy Shunts, read directly in amperes. Shunts of different sizes can be adjusted to the same instrument, and it can, therefore, be used to measure a current of 2000 amperes with the same degree of accuracy as a current of 1 ampere. The combination of millivoltmeter and shunt is practically compensated for temperature and is correct within  $\frac{1}{4}$  of 1 per cent. If, at any time, the user of this combination desires to employ additional ranges to those for which the instrument is already adjusted, it is simply necessary to purchase additional shunts of the ranges required,

## MILLIVOLTMETERS

Trade No.		Price Each
085304	Standard portable millivoltmeters	\$62.50

## SHUNTS

With Single Range

Trade No.	Range in Amperes	Price Each	Trade No.	Range in Amperes	Price Each	Trade No.	Range in Amperes	Price Each
085305	1	\$13.75	085313	75	\$34.50	085321	600	\$75.75
085306	3	17.25	085314	100	41.25	085322	750	82.50
085307	5	20.75	085315	150	44.75	085323	800	89.50
085308	10	20.75	085316	200	48.25	085324	1000	110.00
085309	15	20.75	085217	250	51.75	085325	1500	178.75
085310	25	24.25	085318	300	55.00	085326	2000	240.75
085311	30	27.50	085319	400	62.00			
085312	50	30.75	085320	500	68.75			

With Two Ranges Combined in One Case

085327	5 and 1	27.50	085335	100 and 10	55.00	085343	400 and 200	89.50
085328	10 and 1	30.75	085336	150 and 15	58.50	085344	500 and 50	86.00
085329	15 and 1.5	34.50	085337	150 and 30	62.00	085345	500 and 100	89.50
085330	15 and 3	34.50	085338	200 and 20	65.50	085346	500 and 200	89.50
085331	30 and 3	34.50	085339	300 and 15	72.25	085347	600 and 60	89.50
085332	40 and 4	38.00	085340	300 and 30	75.75	085348	600 and 300	110.00
085333	50 and 5	41.25	085341	300 and 150	82.50	085349	750 and 300	123.75
085334	75 and 15	48.25	085342	400 and 40	82.50	085350	1000 and 500	192.50

With Three or More Ranges Combined in One Case

085351	15-3-0.75	41.25	085359	75-15-1.5	58.50	085367	150-75-15-1.5	89.50
085352	15-3-1.5	41.25	085360	100-10-1	62.00	085368	150-75-15-1.5-0.75	96.25
085353	30-15-1.5	48.25	085361	100-20-2	62.00	085369	200-20-2	75.75
085354	30-15-3	48.25	085362	100-50-20-2	82.50	085370	200-100-10	82.50
085355	30-15-7.5-1.5	65.50	085363	100-50-20-10-5-1	96.25	085371	300-15-1.5	82.50
085356	50-5-0.5	55.00	085364	150-15-1.5	68.75	085372	300-30-3	82.50
085357	50-10-1	55.00	085365	150-15-1.5-0.15	82.50	085373	300-75-15	89.50
085358	50-20-5-0.5	75.75	085366	150-75-15	75.75			

Above prices include adjustment between millivoltmeter and shunts.

The movement  
is securely fastened  
This box is  
water-tight, having  
rubber gaskets on  
all ranges and

Double and  
under Model  
additional range

Trade  
No.  
085  
086  
087  
088  
089  
090  
091  
092  
093



# WESTON PORTABLE INSTRUMENTS

FOR DIRECT CURRENT

## MODEL 45



Voltmeter



Ammeter

The movement in the Model No. 45 instrument is completely enclosed in an iron case, securely fastened in a wooden carrying box, which protects it from stray magnetic fields.

This box is provided with a hinged cover, which protects the scale and binding posts. Ammeters, having a maximum range of 25 amperes or less, are provided with self-contained shunts. Higher ranges are adjusted to external station type shunts.

## VOLTMETERS

Trade No.	Ranges in Volts	Value of Each Scale Division in Volts	Price Each
625	0- 3	.02	\$41.25
626	0- 5	.05	41.25
627	0- 15	.1	41.25
628	0-150	1	48.75
629	0-300	2	53.75
630	0-600	5	57.75
631	0-750	5	61.00

Double and triple range voltmeters will be furnished when desired in the combinations listed under Model 1 voltmeter. To determine the price of such instruments add \$8.25 for each additional range to the price as listed above for the highest range.

## AMMETERS

Trade No.	Ranges in Amperes	Value of Each Scale Division in Amperes	Price Each
32	0- 5	.05	\$41.25
33	0- 15	.1	41.25
34	0- 25	.2	41.25
35	0- 50	.5	42.00
37	0-100	1	43.75
38	0-150	1	44.50
39	0-200	2	46.25
40	0-250	2	46.75
41	0-300	2	46.75
42	0-400	5	47.00
43	0-500	5	48.75



## WESTON PORTABLE INSTRUMENTS

FOR ALTERNATING CURRENT

MODEL 155



Voltmeter



Ammeter

These instruments may be used on circuits of any frequency from 15 to 140 cycles per second without sensible error in their indications.

The various ranges of voltmeters listed are all self-contained. They include instruments adapted to a full scale deflection with 75 volts, to instruments to give a full scale deflection with 750 volts. For use with higher voltages multipliers or transformers must be used.

The ammeters listed may be used on circuits having a difference in potential of 2300 volts. For higher ranges or voltages transformers must be used.

## VOLTMETERS

Trade No.	Range In Volts	DIMENSIONS, INCHES			Price Each
		Length	Width	Depth	
06951	75	7	7 1/8	3 1/4	\$32.75
06952	125	7	7 1/8	3 1/4	33.75
06953	150	7	7 1/8	3 1/4	34.50
06954	300	7	7 1/8	3 1/4	40.50
06955	500	7 3/4	8 3/4	4	47.00
06956	600	7 3/4	8 3/4	4	48.75
06957	750	7 3/4	8 3/4	4	52.75

All the above ranges of voltmeters are provided with self-contained resistances.

## AMMETERS

Trade No.	Range In Amperes	DIMENSIONS, INCHES			Price Each
		Length	Width	Depth	
06958	1	7	7 1/8	3 1/4	\$32.75
06959	2	7	7 1/8	3 1/4	32.25
06960	3	7	7 1/8	3 1/4	31.25
06961	5	7	7 1/8	3 1/4	31.25
06962	10	7	7 1/8	3 1/4	31.25
06963	15	7	7 1/8	3 1/4	31.25
06964	25	7	7 1/8	3 1/4	31.25
06965	50	7	7 1/8	3 1/4	32.25
06966	75	7	7 1/8	3 1/4	32.25
06967	100	7	7 1/8	3 1/4	32.25
06968	150	7	7 1/8	3 1/4	33.00
06969	200	7	7 1/8	3 1/4	33.75
06970	250	7	7 1/8	3 1/4	34.50
06971	300	7	7 1/8	3 1/4	34.75
052636	400	7	7 1/8	3 1/4	38.00
052637	500	7	7 1/8	3 1/4	41.25

The current transformers must be used for the measurement of all the alternating currents greater than 500 amperes.

## MILLIAMMETERS

Trade No.	Range in Milliammeters	DIMENSIONS, INCHES			Price Each
		Length	Width	Depth	
06972	75	7	7 1/8	3 1/4	\$32.75
06973	150	7	7 1/8	3 1/4	32.75
06974	250	7	7 1/8	3 1/4	32.75
06975	500	7	7 1/8	3 1/4	32.75
06976	750	7	7 1/8	3 1/4	32.75

\*Ranges 500 to 1000



# WESTON PORTABLE INSTRUMENTS For Alternating and Direct Current WATTMETERS—MODEL 329—POLYPHASE



These instruments are contained in highly polished mahogany boxes, provided with carrying handles, locks, and covers equipped with slip hinges. The weight is approximately 17½ pounds. Dimensions are 9½x10½x8½ inches over all. This form of instrument really consists of two single-phase wattmeters, electrically independent, but having their movable coils mounted on a common shaft, so that they rotate together. Each coil, however, moves in its own system of field coils. The scales are uniform throughout their entire length, and are 5¼ inches long.

In general, the indications may be relied upon to within ½ of 1 per cent of full scale value on either direct current circuits or on alternating current circuits of any frequency up to 133 cycles per second and of any wave form.

Normal 100/50, Maximum 150/75 Volts								
Trade No.	AMPERES		AMPERES		*WATT RANGES		No. of Scale Lines	Price Each
	NORMAL Series	MULTIPLE	MAXIMUM Series	MULTIPLE	Field Coils in Series	Field Coils in Multiple		
131543	1	2	2	4	200/100	400/200	100	\$181 50
131544	2.5	5	5	10	500/250	1000/500	100	181 50
131545	5	10	10	20	1/5 K.W.	2/1 K.W.	100	181 50
131546	10	20	20	40	2/1 K.W.	4/2 K.W.	100	189 75
Normal 150/75, Maximum 250/125 Volts								
131547	1	2	2	4	300/150	600/300	150	181 50
131548	2.5	5	5	10	750/375	1500/750	150	181 50
131549	5	10	10	20	1.5/.75 K.W.	3/1.5 K.W.	150	181 50
131550	10	20	20	40	3/1.5 K.W.	6/3 K.W.	150	189 75
Normal 200/100, Maximum 300/150 Volts								
131551	1	2	2	4	400/200	800/400	100	189 75
131552	2.5	5	5	10	1/5 K.W.	2/1 K.W.	100	189 75
131553	5	10	10	20	2/1 K.W.	4/2 K.W.	100	189 75
131554	10	20	20	40	4/2 K.W.	8/4 K.W.	100	198 00
Normal 300/150, Maximum 450/250 Volts								
131555	1	2	2	4	600/300	1200/600	120	189 75
131556	2.5	5	5	10	1.5/.75 K.W.	3/1.5 K.W.	150	189 75
131557	5	10	10	20	3/1.5 K.W.	6/3 K.W.	150	189 75
131558	10	20	20	40	6/3 K.W.	12/6 K.W.	120	198 00
Normal 500/100, Maximum 600/150 Volts								
131559	1	2	2	4	1000/200	2000/400	100	206 25
131560	2.5	5	5	10	2500/500	5000/1000	100	206 25
131561	5	10	10	20	5/1 K.W.	10/2 K.W.	100	206 25
131562	10	20	20	40	10/2 K.W.	20/4 K.W.	100	214 50
Normal 600/150, Maximum 675/250 Volts								
131563	1	2	2	4	1200/300	2400/600	120	210 50
131564	2.5	5	5	10	3/.75 K.W.	6/1.5 K.W.	150	210 50
131565	5	10	10	20	6/1.5 K.W.	12/3 K.W.	150	210 50
131566	10	20	20	40	12/3 K.W.	24/6 K.W.	120	218 75
Normal 600/300, Maximum 675/450 Volts								
31567	1	2	2	4	1.2/6 K.W.	2.4/1.2 K.W.	120	210 50
31568	2.5	5	5	10	3/1.5 K.W.	6/3 K.W.	150	210 50
31569	5	10	10	20	6/3 K.W.	12/6 K.W.	120	210 50
31570	10	20	20	40	12/6 K.W.	24/12 K.W.	120	218 75
Normal 750/150, Maximum 750/250 Volts								
31571	1	2	2	4	1500/300	3000/600	150	214 50
31572	2.5	5	5	10	3750/750	7500/1500	150	214 50
31573	5	10	10	20	7.5/1.5 K.W.	15/3 K.W.	150	214 50
31574	10	20	20	40	15/3 K.W.	30/6 K.W.	150	222 75
Normal 750/300, Maximum 750/450 Volts								
31575	1	2	2	4	1500/600	3000/1200	150	214 50
31576	2.5	5	5	10	3750/1500	7500/3000	150	214 50
31577	5	10	10	20	7.5/3 K.W.	15/6 K.W.	150	214 50
31578	10	20	20	40	15/6 K.W.	30/12 K.W.	150	222 75

\*Ranges not marked K.W. read in watts.



## WESTON PORTABLE INSTRUMENTS

For Alternating and Direct Current  
WATTMETERS—MODEL 310—SINGLE-PHASE

These instruments represent the latest development in electro-dynamometer wattmeters and embody many characteristics hitherto considered unattainable in instruments of this class. They are contained in highly polished mahogany boxes, provided with carrying handles, locks, and covers equipped with slip hinges. The weight is approximately 11 pounds and the dimensions are  $8 \times 10 \frac{1}{4} \times 5 \frac{3}{4}$  over all. The scales are  $5 \frac{1}{4}$  inches long, uniform throughout their entire length, and are provided with mirrors to prevent parallax errors.

A reversing switch is provided by means of which the direction of the current through the movable coil may be changed without changing the direction through the rest of the potential circuit. This switch will be found very useful in connecting the wattmeter to circuits in which the polarity is not known. In addition to the reversing switch, a locking contact key is provided, by means of which the potential circuit may be opened.

In general, these instruments are guaranteed to an accuracy of  $\frac{1}{4}$  of 1 per cent of full scale value for use on either direct current circuits or alternating current circuits of any frequency to 133 cycles per second and of any wave form. Each instrument is accompanied by a certificate, giving its electrical characteristics, general instructions for use, and diagram showing the correct binding posts to be employed for the various ranges.

Double ranges for both the current and voltage circuits are provided. These ranges are controlled by means of independent binding posts.

It will be noted from the table following that these instruments can be furnished with self-contained potential ranges up to 750 volts. For higher ranges, the use of potential transformers is recommended.

Multipliers with Y connected resistors, arranged so that the pressure circuit of single-phase wattmeters may be properly connected for use on 3-phase balanced systems, can be furnished. Prices on request.

## MODEL 310 SINGLE-PHASE WATTMETERS

Normal 100/50, Maximum 150/75 Volts

Trade No.	AMPERES				*WATT RANGES		No. of Scale Lines	Price Each
	NORMAL Series	MULTIPLE	MAXIMUM Series	MULTIPLE	Field Coils in Series	Field Coils in Multiple		
131451	1	2	2	4	100/50	200/100	100	\$115.50
131452	2.5	5	5	10	250/125	500/250	125	115.50
131453	5	10	10	20	500/250	1000/500	100	115.50
131454	10	20	20	40	1/5 K.W.	2/1 K.W.	100	115.50
131455	20	40	40	80	2/1 K.W.	4/2 K.W.	100	123.75
131456	30	60	60	120	3/1.5 K.W.	6/3 K.W.	150	123.75
131457	50	100	75	150	5/2.5 K.W.	10/5 K.W.	100	123.75
Normal 150/75, Maximum 250/125 Volts								
131458	1	2	2	4	150/75	300/150	150	115.50
131459	2.5	5	5	10	375/187.5	750/375	150	115.50
131460	5	10	10	20	750/375	1500/750	150	115.50
131461	10	20	20	40	1.5/75 K.W.	3/1.5 K.W.	150	115.50
131462	20	40	40	80	3/1.5 K.W.	6/3 K.W.	150	123.75
131463	30	60	60	120	5/2.5 K.W.	10/5 K.W.	100	123.75
131464	50	100	75	150	7.5/3.75 K.W.	15/7.5 K.W.	150	123.75
Normal 200/100, Maximum 300/150 Volts								
131465	1	2	2	4	200/100	400/200	100	123.75
131466	2.5	5	5	10	500/250	1000/500	100	123.75
131467	5	10	10	20	1/5 K.W.	2/1 K.W.	100	123.75
131468	10	20	20	40	2/1 K.W.	4/2 K.W.	100	123.75
131469	20	40	40	80	4/2 K.W.	8/4 K.W.	100	132.00
131470	30	60	60	120	6/3 K.W.	12/6 K.W.	120	132.00
131471	50	100	75	150	10/5 K.W.	20/10 K.W.	100	132.00
Normal 300/150, Maximum 450/250 Volts								
131472	1	2	2	4	300/150	600/300	150	123.75
131473	2.5	5	5	10	750/375	1500/750	150	123.75
131474	5	10	10	20	1.5/75 K.W.	3/1.5 K.W.	150	123.75
131475	10	20	20	40	3/1.5 K.W.	6/3 K.W.	150	123.75
131476	20	40	40	80	6/3 K.W.	12/6 K.W.	120	132.00
131477	30	60	60	120	10/5 K.W.	20/10 K.W.	100	132.00
131478	50	100	75	150	15/7.5 K.W.	30/15 K.W.	150	132.00

\*Ranges not marked K.W. read in watts.

Trade No.  
131480  
131481  
131482  
131483  
131484  
131485  
131486  
131487  
131488  
131489  
131490  
131491  
131492  
131493  
131494  
131495  
131496  
131497  
131498  
131499  
131500  
131501  
131502  
131503

131504  
131505  
131506  
131507  
131508  
131509  
131510  
131511  
131512  
131513  
131514  
131515  
131516  
131517

131518  
131519  
131520  
131521  
131522  
131523  
131524

\* Ranges

SPECIAL

For measure  
transformers, a  
for 20 per cent  
amperes applied  
the power cons  
may be used w  
The scales  
regular model.

Trade No.  
131525  
131526  
131527  
131528  
131529  
131530  
131531  
These rang



# WESTON PORTABLE INSTRUMENTS

FOR ALTERNATING AND DIRECT CURRENT

## WATTMETERS—MODEL 310—SINGLE PHASE

Normal 500/100, Maximum 600/150 Volts

Trade No.	AMPERES				*WATT RANGES		No. of Scale Lines	Price Each
	Series	Multiple	Series	Multiple	Field Coils in Series	Field Coils in Multiple		
131490	1	2	2	4	500/100	1000/200	100	\$140.25
131491	2.5	5	5	10	1250/250	2500/500	125	140.25
131492	5	10	10	20	2500/500	5000/1000	100	140.25
131493	10	20	20	40	5/1 K.W.	10/2 K.W.	100	140.25
131494	20	40	40	80	10/2 K.W.	20/4 K.W.	100	148.50
131495	30	60	60	120	15/3 K.W.	30/6 K.W.	150	148.50
131496	50	100	75	150	25/5 K.W.	50/10 K.W.	100	148.50

Normal 600/150, Maximum 675/250 Volts

131497	1	2	2	4	600/150	1200/300	150	144.50
131498	2.5	5	5	10	1500/375	3000/750	150	144.50
131499	5	10	10	20	3/75 K.W.	6/1.5 K.W.	150	144.50
131500	10	20	20	40	6/1.5 K.W.	12/3 K.W.	150	144.50
131501	20	40	40	80	12/3 K.W.	24/6 K.W.	120	152.75
131502	30	60	60	120	20/5 K.W.	40/10 K.W.	100	152.75
131503	50	100	75	150	30/7.5 K.W.	60/15 K.W.	150	152.75

Normal 600/300, Maximum 675/450 Volts

131504	1	2	2	4	600/300	1200/600	120	144.50
131505	2.5	5	5	10	1.5/75 K.W.	3/1.5 K.W.	150	144.50
131506	5	10	10	20	3/1.5 K.W.	6/3 K.W.	150	144.50
131507	10	20	20	40	6/3 K.W.	12/6 K.W.	120	144.50
131508	20	40	40	80	12/6 K.W.	24/12 K.W.	120	152.75
131509	30	60	60	120	20/10 K.W.	40/20 K.W.	100	152.75
131510	50	100	75	150	30/15 K.W.	60/30 K.W.	150	152.75

Normal 750/150, Maximum 750/250 Volts

131511	1	2	2	4	750/150	1500/300	150	148.50
131512	2.5	5	5	10	1875/375	3750/750	150	148.50
131513	5	10	10	20	3750/750	7500/1500	150	148.50
131514	10	20	20	40	7.5/1.5 K.W.	15/3 K.W.	150	148.50
131515	20	40	40	80	15/3 K.W.	30/6 K.W.	150	156.75
131516	30	60	60	120	25/5 K.W.	50/10 K.W.	100	156.75
131517	50	100	75	150	37.5/7.5 K.W.	75/15 K.W.	150	156.75

Normal 750/300, Maximum 750/450 Volts

131518	1	2	2	4	750/300	1500/600	150	148.50
131519	2.5	5	5	10	2000/800	4000/1600	160	148.50
131520	5	10	10	20	3750/1500	7500/3000	150	148.50
131521	10	20	20	40	7.5/3 K.W.	15/6 K.W.	150	148.50
131522	20	40	40	80	15/6 K.W.	30/12 K.W.	150	156.75
131523	30	60	60	120	25/10 K.W.	50/20 K.W.	100	156.75
131524	50	100	75	150	37.5/15 K.W.	75/30 K.W.	150	156.75

\* Ranges not marked K.W. read in watts.

## SPECIAL MODEL 310 WATTMETERS FOR VERY LOW POWER FACTORS

For measurements in circuits where the power factor is very low, such as core losses in transformers, a special line of Weston Wattmeters has been designed, giving full scale deflection for 20 per cent power factor; that is, the scale value in watts is 20 per cent of the number of volt amperes applied. All wattmeters of this type, except the 1 and 0.5 ampere, are compensated for the power consumed in their potential circuits. A switch is provided by which the instrument may be used with or without this compensation.

The scales are uniform and the instruments have the same general characteristics as the regular model.

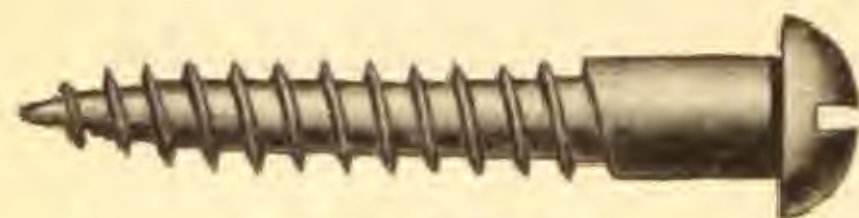
Maximum Volts 150/75

Trade No.	MAXIMUM CAPACITY, AMPERES		WATT RANGES		No. of Scale Lines	Price Each
	Fields in Series	Fields in Multiple	Fields in Series	Fields in Multiple		
131525	0.5	1	15/7.5	30/15	150	† \$132.00
131526	1	2	30/15	60/30	150	† 132.00
131527	2.5	5	75/37.5	150/75	150	132.00
131528	5	10	150/75	300/150	150	132.00
131529	10	20	300/150	600/300	150	140.25
131530	20	40	600/300	1200/600	120	140.25
131531	50	100	1500/750	3000/1500	150	140.25

† These ranges are not compensated and are useful for special conditions only.



## IRON WOOD SCREWS



Round Head



Flat Head

## PRICE, PER GROSS

No. of Screw	LENGTH OF SCREW, INCHES									
	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$
0	\$0.72	\$0.72	---	---	---	---	---	---	---	---
1	.72	.72	.72	.72	---	---	---	---	---	---
2	.72	.72	.72	.72	.72	.74	---	---	---	---
3	.72	.72	.72	.72	.75	.78	.80	.88	.98	---
4	.72	.72	.75	.75	.78	.82	.84	.92	1.05	---
5	---	.75	.78	.78	.82	.85	.87	.98	1.10	1.30
6	---	.78	.80	.82	.85	.90	.92	1.05	1.15	1.35
7	---	.82	.84	.86	.90	.94	.98	1.10	1.20	1.45
8	---	.88	.90	.92	.95	1.00	1.05	1.15	1.30	1.50
9	---	.94	.96	.98	1.00	1.05	1.10	1.20	1.35	1.55
10	---	---	1.05	1.07	1.10	1.15	1.20	1.30	1.40	1.60
11	---	---	1.10	1.12	1.15	1.25	1.30	1.40	1.50	1.70
12	---	---	1.20	1.20	1.25	1.35	1.40	1.55	1.65	1.80
13	---	---	---	1.25	1.35	1.45	1.60	1.70	1.80	2.00
14	---	---	---	1.30	1.50	1.55	1.70	1.90	2.00	2.25
15	---	---	---	---	1.65	1.75	2.00	2.15	2.35	2.60
16	---	---	---	---	1.80	2.00	2.50	2.50	2.80	2.90
17	---	---	---	---	---	---	2.70	2.75	3.20	3.50
18	---	---	---	---	---	---	2.80	3.30	3.80	4.00
20	---	---	---	---	---	---	3.50	4.00	4.30	4.50
22	---	---	---	---	---	---	---	4.80	5.10	5.20
24	---	---	---	---	---	---	---	5.40	5.90	6.00

No. of Screw	LENGTH OF SCREW, INCHES									
	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
5	\$1.45	\$1.55	\$1.90	---	---	---	---	---	---	---
6	1.50	1.60	2.00	2.40	2.95	---	---	---	---	---
7	1.55	1.65	2.10	2.60	3.00	---	---	---	---	---
8	1.60	1.75	2.20	2.70	3.05	3.90	4.90	---	---	---
9	1.65	1.85	2.30	2.80	3.10	4.00	5.10	---	---	---
10	1.75	1.95	2.40	2.90	3.15	4.10	5.20	---	---	---
11	1.85	2.05	2.50	3.00	3.20	4.20	5.30	---	---	---
12	2.00	2.20	2.60	3.10	3.30	4.30	5.40	7.00	8.10	10.00
13	2.20	2.35	2.70	3.20	3.40	4.40	5.60	7.20	8.30	10.30
14	2.45	2.65	2.90	3.30	3.50	4.50	5.90	7.60	8.60	11.00
15	2.75	3.10	3.30	3.60	3.80	4.75	6.20	7.85	9.10	11.60
16	3.10	3.50	3.65	3.90	4.20	4.95	6.50	8.15	9.70	12.40
17	3.70	3.85	4.20	4.50	4.80	5.40	7.00	8.60	10.10	13.00
18	4.20	4.55	4.70	5.00	5.50	6.15	7.60	9.15	11.00	14.50
20	4.80	5.30	5.80	6.10	6.50	7.30	8.60	9.85	11.50	16.00
22	5.50	6.10	6.70	7.20	7.50	8.70	9.70	11.20	13.00	18.00
24	6.40	6.90	7.50	8.50	8.70	10.20	11.20	13.50	15.00	20.00
26	---	---	---	---	10.50	12.00	14.00	16.00	18.00	23.00
28	---	---	---	---	---	---	16.00	18.50	21.00	27.00
30	---	---	---	---	---	---	18.50	21.50	24.00	30.50



## WESTON PORTABLE INSTRUMENTS

FOR ALTERNATING AND DIRECT CURRENT



Voltmeter, Model 341



Ammeter, Model 370

These instruments are electro-dynamometer meters and may be used with equal accuracy on either alternating current or direct current circuits.

They are contained in highly polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip langes. The weight is approximately 11 pounds, and the dimensions are  $8 \times 10 \frac{1}{4} \times 5 \frac{3}{4}$  inches over all.

Owing to the principle of operation, these instruments cannot be made with a uniform scale, but the upper two-thirds of the scale is remarkably uniform. The length of the scale is  $5 \frac{1}{4}$  inches.

The scales are accurately hand calibrated to each cardinal division by direct comparison with standards, and the intermediate steps are subdivided with great care.

## VOLTMETERS—MODEL 341

## Single Range

Trade No.	Range Volts	Approx. Resistance Ohms	Price Each	Trade No.	Range Volts	Approx. Resistance Ohms	Price Each
131401	1	2	\$107.25	131409	15	100	\$103.25
131402	1.5	3	107.25	131410	30	470	99.00
131403	2	4	107.25	131411	75	1180	99.00
131404	3	6	107.25	131412	120	2700	99.00
131405	5	18	107.25	131413	150	3300	99.00
131406	7.5	50	103.25	131414	300	6700	103.25
131407	10	66	103.25	131415	600	20000	111.50
131408	12	80	103.25	131416	750	25000	115.50

## Double Range

131417	5-1	10-2	115.50	131424	150-75	3300-1650	107.25
131418	15-1.5	30-3	115.50	131425	300-150	6700-3350	111.50
131419	3-1.5	6-3	115.50	131426	600-150	20000-5000	119.75
131420	6-3	21-10.5	115.50	131427	600-300	20000-10000	119.75
131421	15-7.5	100-50	111.50	131428	750-150	25000-5000	123.75
131422	30-15	300-150	111.50	131429	750-300	25000-10000	123.75
131423	120-60	2700-1350	107.25				

## AMMETERS—MODEL 370

## Milliammeters—Single Range

Trade No.	Range Milliamps.	Approx. Resistance Ohms	Price Each	Trade No.	Range Milliamps.	Approx. Resistance Ohms	Price Each
131430	15	1400	\$111.50	131436	150	19.5	\$111.50
131431	20	720	111.50	131437	200	7.5	111.50
131432	30	350	111.50	131438	300	3.2	111.50
131433	50	167	111.50	131439	500	1.2	111.50
131434	75	50	111.50	131440	750	.9	111.50
131435	100	26.5	111.50				

## Ammeters—Double Range

Trade No.	Range Amps.	Price Each	Trade No.	Range Amps.	Price Each
131441	2-1	\$123.75	131443	10-5	\$123.75
131442	5-2 1/2	123.75			



## WESTON PORTABLE CURRENT AND POTENTIAL TRANSFORMERS

For Use With Portable Alternating Current Instruments



Model 312



Model 313



Model 311

### PORTABLE CURRENT TRANSFORMERS

Two forms of Weston Portable Current Transformers are made. One of these forms is a self-contained type, both the primary and secondary windings constituting an integral part of the structure. This type is designated Model 312.

In the other form the secondary winding alone is an integral part of the structure, and the primary winding is inserted in the transformer by the user at the time of making a measurement. This form is therefore known as the inserted primary type, and designated Model 313.

The cores of these models are rectangular in shape and are constructed of thin laminations of special iron alloy punched from solid sheet, so that there are no joints in the magnetic circuit.

#### Model 312

This type is made in three current capacities, each having three ranges. The primary winding is wound over the secondary, insulated from it, and consists of four sections of insulated copper strips wound side by side in independent spirals in planes perpendicular to the core. The sections can be connected in series, in series-multiple, or all in multiple to obtain the various ratios. To facilitate the changes in ratio, the terminals of the windings are connected to contact blocks forming a plug switch mounted on the insulated top.

Secondary, 5 amperes. Test, 10000 volts for one minute. Capacity, 25 volt-amperes. Frequency, 25 to 133 cycles.

Trade No.	Ratio	Price Each
131590	10- 20- 40 amperes to 5 amperes	\$81.75
131591	25- 50-100 amperes to 5 amperes	81.75
131592	50-100-200 amperes to 5 amperes	81.75

#### Model 313

This type is designed for the measurement of currents in excess of 200 amperes. It consists of a core wound with the secondary winding only, enclosed in a wooden box provided with an opening through which the primary, made of a cable or busbar, may be passed by the user. This type of transformer is much more universally useful for higher range measurements than the self-contained type for the reason that the ratio may be changed at will to suit the conditions of measurement.

Secondary, 5 amperes. Test, 10000 volts for one minute. Capacity, 25 volt-amperes. Frequency, 25 to 133 cycles.

Trade No.	Ratio with One Turn	Size Opening Inches	Price Each
131593	1200 amperes to 5 amperes	2x3 $\frac{7}{8}$	\$63.25
131594	1800 amperes to 5 amperes	2x3 $\frac{7}{8}$	66.75
131595	2400 amperes to 5 amperes	2x4 $\frac{1}{2}$	70.75

### PORTABLE POTENTIAL TRANSFORMERS

#### Model 311

Made in three voltage capacities, each having a double-voltage range. The double range feature is obtained by having the primary winding made in two similar sections, which can be connected in series or in multiple by means of links conveniently located on the insulating top of the transformer case.

Secondary, 110 volts. Capacity, 15 volt-amperes. Frequency, 25 to 133 cycles.

Trade No.	Ratio	Price Each
131596	2200-1100 volts to 110 volts	\$74.25
131597	1100- 550 volts to 110 volts	70.75
131598	440- 220 volts to 110 volts	66.75



## WESTON GARAGE TESTING INSTRUMENTS



Model 280



Model 441

## MODEL 280 TESTING INSTRUMENTS

The Weston Model 280 Garage Testing Instrument has six ranges as follows: 30 volts, 3 volts and .1 volt (100 millivolts), 300 amperes, 30 amperes and 3 amperes.

A large number of tests can be made with this combination of ranges. This instrument is the equivalent of six separate electrical measuring instruments of different ranges and it provides a means of making any tests that are necessary on electric starting and lighting systems.

Ordinarily, six instruments of this size would cost in the neighborhood of \$80.00, so that the remarkably low price named on this Model 280 garage testing instrument will be readily appreciated, and especially will its low cost be realized when it is borne in mind that Model 280 is an instrument of the highest grade procurable in its size. It is a standard Weston product, fully guaranteed by the maker and it may be depended upon for accuracy, serviceability and durability that has never been acquired except by other Weston models, and then only in instruments of much higher price. In short, it is a thoroughly reliable instrument of precision, offered in a convenient size and at a price that enables a garage proprietor to obtain a full and permanent electrical testing equipment at an insignificant cost.

A small booklet which describes the Model 280 thoroughly will be sent upon request.

Trade No.	Description	Price Each
109586	Complete as above, without leather carrying case .....	\$41.25
109587	Carrying case to contain instrument and shunt.....net	5.00

## MODEL 441 FAULT FINDERS

The Model 441 consists of an ammeter and a voltmeter mounted in a compact wooden carrying box. The ammeter has a range of 30-0-30 amperes and is protected against accidental burn-out by means of a replaceable glass enclosed automobile fuse. The voltmeter is a double range instrument having ranges of 2-0-30 and 0.2-0-3 volts. The latter range is particularly adapted for making cadmium tests.

Each instrument is provided with a zero correcting device.

Both instruments have uniform scales.

Connection between the instrument and the circuit under test is made by means of two eight foot cables having plugs on one end and lead covered clips on the other. The plugs fit into receptacles in the instrument.

A complete instruction book accompanies each instrument.

Trade No.	Description	Price Each
109588	Complete as above .....	\$36.25
109589	Cadmium Test Lead.....net	2.75

WEST

Diameter  
length of seal  
inches.Case is  
external mag  
type. The sRegular Type  
Trade  
No.

016573

016574

016575

016576

016577

016578

016579

016580

016581

016582

016583

016584

Regular Type  
Trade  
No.

016531

016532

016533

016534

016535

016536

016537

016538

016539

016540

016541

016542

016543

016544

016545

016546

016547

016548

016549

016550

016551

The above  
No extra  
cases. Always  
Ammeters  
unless otherwise



# WESTON ROUND PATTERN STATION INSTRUMENTS FOR DIRECT CURRENT MODEL 57



Regular Type



Flush Type

Diameter of front,  $8\frac{11}{16}$  inches; diameter of flanged base,  $9\frac{9}{16}$  inches; total depth,  $4\frac{3}{8}$  inches; length of scale,  $6\frac{1}{2}$  inches; weight, 15 pounds; weight packed, 22 pounds; packing case, 8x10x14 inches.

Case is of cast iron, dustproof and neatly finished, affording effectual protection against external magnetic influences. Made in three patterns: Regular, back connection, and flush type. The scale is drawn on opaque paper, and hence cannot be illuminated from the rear.

Regular Type	Flush Type	VOLTMETERS		Price
Trade No.	Trade No.	Range in Volts	Number of Scale Divisions	Each
016573	016585	3	60	\$37.50
016574	016586	6	60	37.50
016575	016587	15	75	37.50
016576	016588	25	50	39.00
016577	016589	50	50	39.75
016578	016590	75	75	41.00
016579	016591	130	65	42.50
016580	016592	150	75	44.25
016581	016593	250	50	47.25
016582	016594	300	60	48.75
016583	016595	600	60	52.50
016584	016596	750	75	55.50

Regular Type	Flush Type	AMMETERS		Price
Trade No.	Trade No.	Range in Amperes	Number of Scale Divisions	Each
016531	016552	1	50	\$37.50
016532	016553	5	50	37.50
016533	016554	10	50	37.50
016534	016555	15	75	37.50
016535	016556	25	50	37.50
016536	016557	50	50	38.25
016537	016558	75	75	39.00
016538	016559	100	50	39.75
016539	016560	150	75	40.50
016540	016561	200	40	42.00
016541	016562	250	50	42.50
016542	016563	300	60	42.50
016543	016564	400	40	42.75
016544	016565	500	50	44.25
016545	016566	600	60	45.75
016546	016567	750	75	47.25
016547	016568	1000	50	48.75
016548	016569	1200	60	50.25
016549	016570	1500	75	59.00
016550	016571	2000	40	65.75
016551	016572	2500	50	68.00

The above prices are for No. 11 dull black japan finish.

No extra charge will be made for above instruments with back connection or flush type cases. Always specify the style desired, when ordering.

Ammeters up to and including 75 amperes will be supplied as self contained instruments unless otherwise specified. All other ranges have external shunts.



## WESTON ROUND PATTERN STATION INSTRUMENTS

FOR DIRECT CURRENT

MODEL 24



Regular Type



Flush Type

Diameter of front,  $6\frac{5}{8}$  inches; diameter of flanged base,  $7\frac{1}{2}$  inches; total depth, 4 inches; length of scale,  $5\frac{1}{8}$  inches; weight, 9 pounds; weight packed, 15 pounds; packing case, 10x10x11 inches.

## VOLTMETERS

Regular Type Trade No.	Flush Type Trade No.	Range in Volts	Number of Scale Divisions	Price Each
016598	016611	0-3	60	\$25.50
016599	016612	0-5	50	25.50
016600	016613	0-6	60	25.75
016601	016614	0-10	50	26.50
016602	016615	0-15	75	26.50
016603	016616	0-25	50	26.50
016604	016617	0-50	50	26.50
016605	016618	0-80	40	26.50
016606	016619	0-130	65	27.25
016607	016620	0-150	75	28.00
016608	016621	0-250	50	32.25
016609	016622	0-300	60	33.75
016610	016623	0-600	60	43.75

## AMMETERS

Regular Type Trade No.	Flush Type Trade No.	Range in Amperes	Number of Scale Divisions	Price Each
016624	016635	0-1	50	\$24.75
016625	016636	0-5	50	24.75
016626	016637	0-10	50	24.75
016627	016638	0-15	75	25.50
016628	016639	0-25	50	25.50
016629	016640	0-50	50	26.25
016630	016641	0-80	40	26.25
016631	016642	0-100	50	26.50
016632	016643	0-130	65	27.25
016633	016644	0-150	75	27.25
016634	016645	0-200	40	28.00

Ammeters having a range of 80 amperes or less will be supplied as self contained unless otherwise specified. Other ranges have external shunts.

The above prices are for No. 11 dull black japan finish.

WES

These instruments are mechanical in construction, and most permanent. In sensitive to minute changes in their instruments.

Trade No.

06462

06463

06464

06465

06466

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06506

06508



# WESTON ECLIPSE SWITCHBOARD INSTRUMENTS

FOR DIRECT CURRENT

MODELS 160 AND 159



Model 160



Model 159

These instruments are intended for use as ammeters and voltmeters on direct current switchboards. They are of the "movable iron" or "electro-magnetic type," but in their electrical and mechanical characteristics they are so far in advance of all preceding forms of movable iron instruments, as to mark a new epoch in that type of instrument. They are so much better than most permanent magnet instruments, and they possess the advantage of being much lower in price.

In sensitiveness, or power to promptly respond to minute changes in potential difference, or to minute changes in current strength, they also closely approach the Weston permanent magnet instruments.

In their damping qualities they also closely approach the Weston permanent magnet type of instrument.

## AMMETERS

### Model 160

Trade No.	Range Amperes	Price Each
06462	1	\$25.50
06463	2	25.50
06464	3	25.25
06465	5	24.75
06466	10	24.75
06467	15	24.75
06468	25	24.75
06469	50	26.50
06470	75	26.50
06471	100	27.25
06472	150	27.25
06475	200	28.00
06476	250	29.00
06477	300	29.75
06478	400	30.50
06479	500	32.25

## AMMETERS

### Model 159

06487	1	19.75
06488	2	19.75
06490	3	19.50
06491	5	19.00
06492	10	19.00
06493	15	19.00
06494	25	19.00
06495	50	20.75
06496	75	20.75
06497	100	21.50
06498	150	21.50
06499	200	22.25
06500	250	23.00
06505	300	24.00
06506	400	24.75
06508	500	26.50

## VOLTMETERS

### Model 160

Trade No.	Range Volts	Price Each
06480	75	\$26.50
06481	125	26.50
06482	150	26.50
06483	300	29.75
06484	500	33.75
06485	600	35.50
06486	750	37.25

Voltmeters with a range above 150 volts are provided with external resistances.

Diameter of case, 3.56 inches.  
Depth of case, 3.15 inches.  
Length scale arc, 6.50 inches.

## VOLTMETERS

### Model 159

06510	75	19.75
06511	125	19.75
06512	150	19.75
06513	300	24.00
06515	500	26.50
06848	600	28.00
06849	750	29.75

Voltmeters with a range above 150 volts are provided with external resistances.

Diameter of case, 7.25 inches.  
Depth of case, 3.15 inches.  
Length scale arc, 5.25 inches.



## WESTON SWITCHBOARD INSTRUMENTS

FOR ALTERNATING CURRENT

MODELS 151 AND 156



Model 151



Model 156

The case of each ammeter is provided with a "ground terminal," which must, in order to ensure safety to the user, be connected to earth when the potential difference of circuits exceeds 200 volts. When properly erected, the ammeters are perfectly safe for use on circuits operating on a potential difference of 2300 volts, but must be used with transformers on circuits of higher potential difference.

Transformers must be used on all circuits carrying over 500 amperes, and we recommend a value of 5 amperes for the secondary, and will calibrate the instrument the value of the primary so that the instrument will be direct reading.

## AMMETERS

## Model 151

Trade No.	Range Amperes	Price Each
06850	1	\$29.50
06851	2	29.00
06852	3	28.00
06853	5	28.00
06854	10	28.00
06855	15	28.00
06856	25	28.00
06857	50	29.00
06858	75	29.00
06859	100	29.00
06860	150	29.75
06861	200	30.50
06862	250	31.00
06863	300	31.25
06864	400	32.25
06865	500	33.00

## AMMETERS

## Model 156

06873	1	23.00
06874	2	22.75
06875	3	22.25
06876	5	22.25
06877	10	22.25
06878	15	22.25
06879	25	22.25
06880	50	22.75
06881	75	22.75
06882	100	22.75
06883	150	23.75
06884	200	24.25
06885	250	24.75
06886	300	25.50
06887	400	27.25
06888	500	29.00

## VOLTMETERS

## Model 151

Trade No.	Range Volts	Price Each
06866	75	\$30.50
06867	125	30.50
06868	150	31.00
06869	300	37.25
06870	500	43.75
06871	600	45.50
06872	750	49.50

Voltmeters with a range above 300 volts are provided with external resistances.

Diameter of case, 9.56 inches.

Depth of case, 3.15 inches.

Length of scale arc, 6.5 inches.

## VOLTMETERS

## Model 156

06889	75	24.00
06890	130	24.00
06891	150	24.50
06892	300	30.50
06893	500	32.25
06894	600	34.75
06895	750	38.75

Voltmeters with a range above 300 volts are provided with external resistances.

Diameter of case, 7.25 inches.

Depth of case, 3.15 inches.

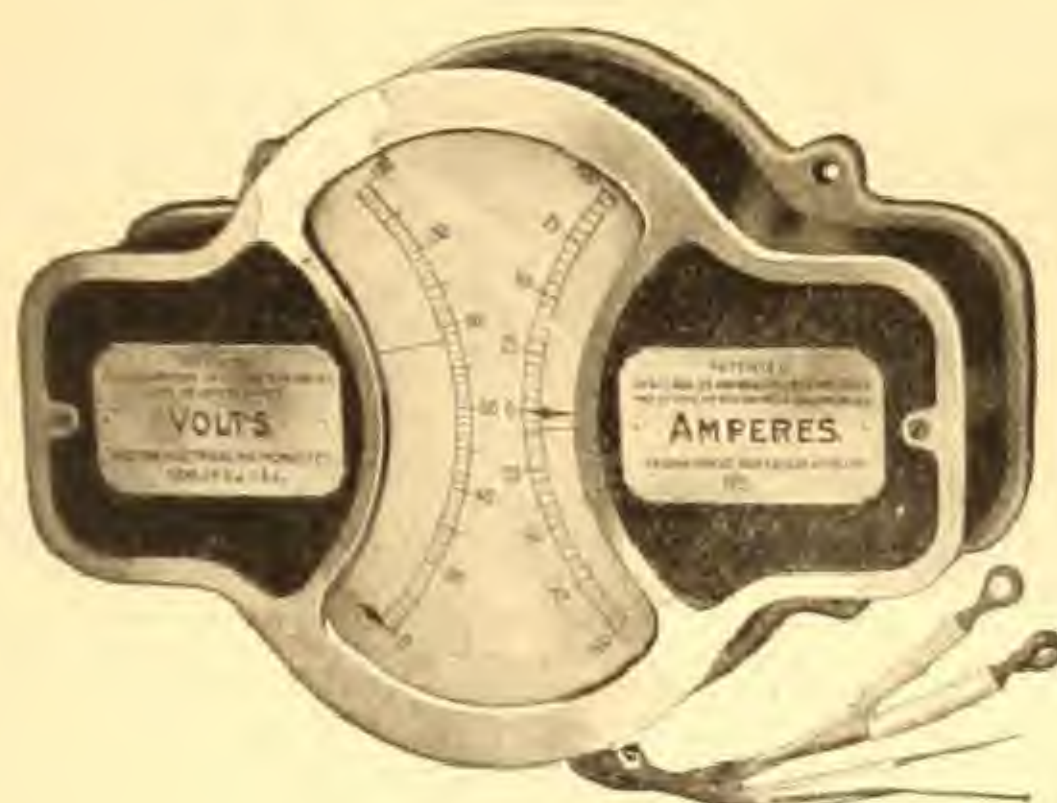
Length of scale arc, 5.25 inches.



# WESTON DUPLEX INSTRUMENTS

FOR DIRECT CURRENT

MODELS 38 AND 39



## 75 VOLTS

## 150 VOLTS

Model 38	Model 39			Model 38	Model 39		
Trade No.	Trade No.	Range for Amp. Scale in Amperes	Price Each	Trade No.	Trade No.	Range for Amp. Scale in Amperes	Price Each
016115	016124	10	\$57.75	016133	016142	10	\$57.75
016116	016125	25	57.75	016134	016143	25	57.75
016117	016126	50	57.75	016135	016144	50	57.75
016118	016127	100	57.75	016136	016145	100	57.75
016119	016128	150	57.75	016137	016146	150	57.75
016120	016129	200	65.50	016138	016147	200	69.00
016121	016130	300	66.00	016139	016148	300	69.25
016122	016131	400	66.50	016140	016149	400	69.75
016123	016132	500	67.75	016141	016150	500	71.00

## 300 VOLTS

Model 38	Model 39			Model 38	Model 39		
Trade No.	Trade No.	Range for Amp. Scale in Amperes	Price Each	Trade No.	Trade No.	Range for Amp. Scale in Amperes	Price Each
016151	016160	10	\$69.00	016156	016114	200	\$73.50
016152	016161	25	69.00	016157	016165	300	74.00
016153	016162	50	69.75	016158	016166	400	74.25
016154	016163	100	71.00	016159	016167	500	75.75
016155	016164	150	71.75	.....	.....	...	.....

## DIMENSIONS

MODEL 39.—Length, 9½ inches; width, 7 inches; height or depth, 3½ inches; weight, 8 pounds. Case made of aluminum.

MODEL 38.—Length, 11 inches; width, 8½ inches; height or depth, 3½ inches; weight, 17 pounds. Case made of iron.

MODEL 39.—Has an aluminum case and was originally designed and was largely used as an automobile instrument. It is therefore practically waterproof, and built to stand, without injury, the constant vibration of such vehicles. Suitable for small switchboard work, especially on motor starter switchboards.



## WESTON ILLUMINATED-DIAL STATION INSTRUMENTS

## MODEL 11

FOR DIRECT CURRENT



Cases for these meters are supplied in two patterns. The one is intended to be attached by means of two brackets directly to and projecting from the front of the switchboard. The other, known as "flush type," is designed to be countersunk so that the front of the instrument is practically flush with the face of the board. The cases are regularly finished in dull black japan.

## AMMETERS

Trade No.	Range Amperes	Value of Each Scale Division in Amperes	Price with Shunt Each	Price Shunt only Each
07060	200	2	\$106.00	\$5.00
07061	250	5	106.00	5.50
07062	300	5	106.50	5.50
07063	400	5	106.75	5.75
07064	500	5	108.25	7.50
07065	600	10	110.00	9.00
07066	750	10	111.50	10.75
07067	1000	10	113.25	12.50
07068	1200	20	115.00	14.00
07069	1500	20	124.50	23.75
07070	2000	20	131.75	30.75
07071	2500	50	134.50	33.50
07072	3000	50	138.00	37.25
07073	3500	50	143.00	42.00
07074	4000	50	150.50	49.50
07075	4500	50	162.75	62.00
07076	5000	50	175.25	74.25
07077	6000	100	187.50	86.75
07078	7000	100	200.00	99.00
07079	8000	100	224.75	123.75
07080	10000	100	249.50	148.50

## VOLTMETERS

Trade No.	Range Volts	Value of Each Scale Division in Volts	Price Each	Trade No.	Range Volts	Value of Each Scale Division in Volts	Price Each
07081	130	2	\$99.00	07085	300	5	\$104.25
07082	150	2	100.50	07086	600	10	105.50
07083	180	2	101.75	07087	750	10	107.00
07084	250	5	102.75	.....	...	..	.....

These prices are for No. 11 dull black japanned finish.

Flush type supplied at the same prices, if specially ordered.



# WESTON INSTRUMENTS

FOR DIRECT CURRENT

## MODEL 56 PORTABLE DUPLEX INSTRUMENTS



These duplex instruments consist of a voltmeter and an ammeter combined in one case. The case is of highly finished natural cherry. All connections are made by means of binding posts inside of the case. These posts are plainly marked, showing their polarity and to which side of the instrument they are connected. Regularly supplied with a single-range voltmeter and a single-range ammeter; they will be supplied, however, with either two voltmeter movements or two ammeter movements of like or different ranges, if so desired. The voltmeter side may be obtained with a double range at a slight increase in cost. The ammeter is furnished only in single ranges up to 100 amperes with a self-contained shunt, but if multiple or higher ranges are desired they can be obtained by the use of external shunts. Suitable for all ordinary testing in which a greater degree of accuracy than 1 per cent is not desired.

RANGE, AMPERES													
5 Amps.		15 Amps.		25 Amps.		50 Amps.		100 Amps.		150 Amps.			
Range	Trade	Price	Trade	Price	Trade	Price	Trade	Price	Trade	Price	Trade	Price	
Volts	No.	Each	No.	Each	No.	Each	No.	Each	No.	Each	No.	Each	
75	085384	\$74.25	085390	\$74.25	085396	\$74.25	085402	\$74.25	085408	\$74.25	085414	\$74.25	
150	085385	78.50	085391	78.50	085397	78.50	085403	78.50	085409	78.50	085415	78.50	
300	085386	82.50	085392	82.50	085398	82.50	085404	82.50	085410	82.50	085416	82.50	
450	085387	86.75	085393	86.75	085399	86.75	085405	86.75	085411	86.75	085417	86.75	
600	085388	90.75	085394	90.75	085400	90.75	085406	90.75	085412	90.75	085418	90.75	
750	085389	99.00	085395	99.00	085401	99.00	085407	99.00	085413	99.00	085419	99.00	
200 Amps.		250 Amps.		300 Amps.		400 Amps.		500 Amps.					
75	085420	79.25	085426	79.25	085432	79.75	085438	80.00	085444	80.75			
150	085421	83.25	085427	83.25	085433	84.00	085439	84.25	085445	85.75			
300	085422	87.50	085428	87.50	085434	88.00	085440	88.25	085446	90.00			
450	085423	91.50	085429	91.50	085435	92.25	085441	92.50	085447	94.00			
600	085424	95.75	085430	95.75	085436	96.25	085442	96.50	085448	98.25			
750	085425	104.00	085431	104.00	085437	104.50	085443	104.75	085449	106.50			

Prices will be quoted upon application for ranges or combinations of ranges not included in the above list.

If the voltmeter is desired with a double range, add \$5.00 to list price of highest range desired.

## MODEL 251 SWITCHBOARD INSTRUMENTS

For use on exciter panels and other direct current panels, which may form a part of an alternating current switchboard, a special form of permanent magnet moving coil instrument has been developed. These instruments are mounted in sheet metal cases having the same design and base and front dimensions as the Weston A. C. Wattmeters, etc. The scales are drawn to harmonize with those used on the A. C. soft iron voltmeters.



Model 251, Voltmeter



Model 251, Ammeter

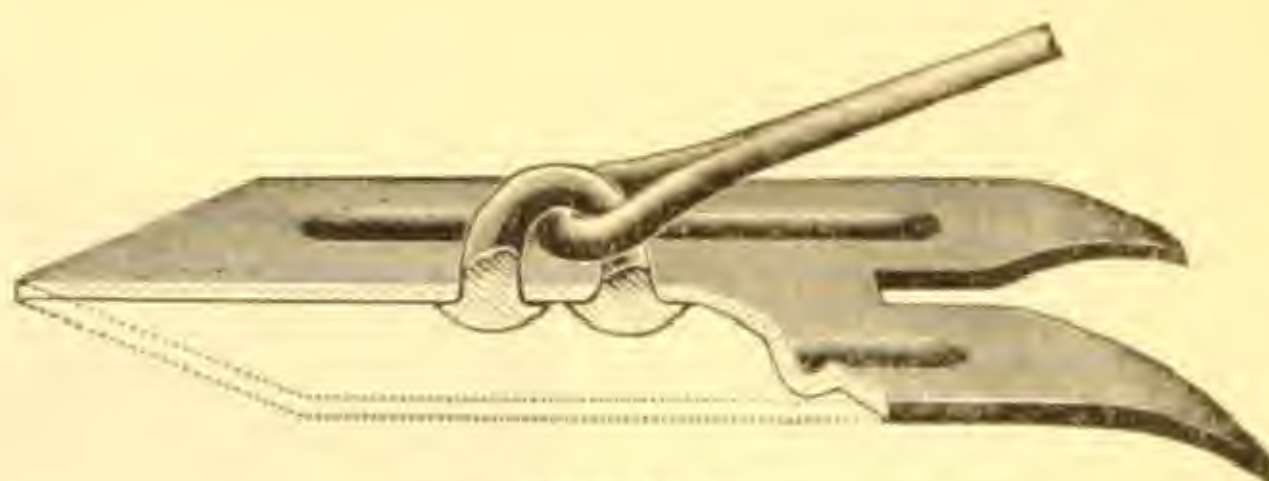
Voltmeters					
Trade No.	Range Volts	Price Each	Trade No.	Range Volts	Price Each
085450	125	\$46.75	085453	300	\$53.75
085451	150	48.75	085454	600	57.75
085452	250	52.00	085455	750	61.00
Ammeters					
Trade No.	Range Amperes	Price Each	Trade No.	Range Amperes	Price Each
085456	5	\$41.25	085464	200	\$46.25
085457	10	41.25	085465	250	46.75
085458	15	41.25	085466	300	46.75
085459	25	41.25	085467	400	47.00
085460	50	42.00	085468	500	48.75
085461	75	43.00	085469	600	50.25
085462	100	43.75	085470	750	52.00
085463	150	44.50			

### Dimensions

Diameter of case, 9 $\frac{5}{8}$  inches; depth of case, 3 $\frac{1}{8}$  inches; length of scale arc, 6 $\frac{3}{4}$  inches.



## ANCHORS



Swan Anchor

### DRIVE AND TWIST GUY ANCHORS

The anchor is driven into the ground with its blades folded. It is then twisted three revolutions to the right, which opens the blades under solid earth. This assures maximum resistance.

They are adapted for all kinds of soil except solid rock. No digging, screwing or tamping. Sledge for driving and bar for twisting are the only tools needed.

No. 1 anchor is recommended for guys requiring  $\frac{1}{4}$ -inch strand or less; No. 2 for guys requiring  $\frac{5}{16}$ -inch strand or less and No. 3 for heavy guy work.

Trade No.	Mfrs. No.	Length Ft.	Diam. Rod In.	Span of Blades In.	Wt. Lbs.	Price Each
202517	1	4	$\frac{3}{4}$	8	8	\$1.80
202518	2	4	$\frac{7}{8}$	10	12	2.60
202519	3	6	$\frac{7}{8}$	12	15	3.20

### SWAN GUY ANCHORS

Installed with the use of the drive bar and a sledge. It is not necessary to remove any earth, the anchor being simply driven down and the drive bar removed. Strain is then applied until there is no give.

Trade No.	Mfrs. No.	Equipment	Capacity Lbs.	Wt. Lbs. per 100	Price Each
202520	6	$\frac{1}{2}$ -inch rod	2000	520	\$0.55
202521	7	$\frac{1}{2}$ -inch rod	3000	580	.65
202522	8	$\frac{3}{8}$ -inch rod	4000	750	.75

No. 2 drive bar required for sizes 6 and 7, \$1.75. No. 3 drive bar required for size 8, \$2.25.

Atlas setter, for applying strain, works well if soil is solid, otherwise use ordinary blocks and tackle, \$3.00.

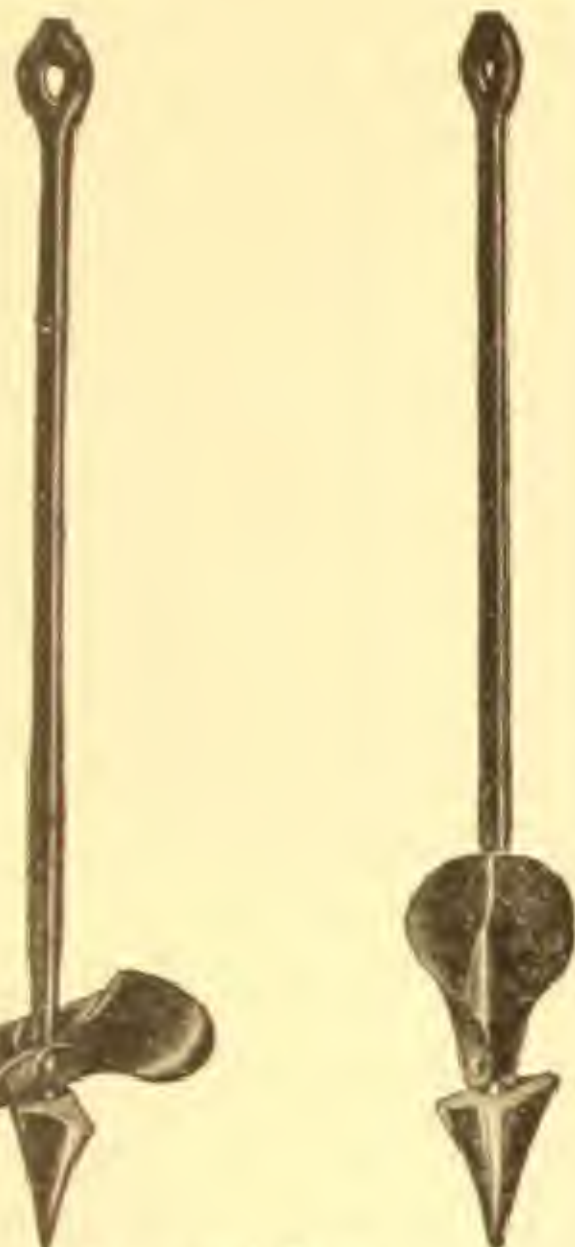
### COGHLIN ANCHORS

This anchor has been on the market for a number of years and is giving universal satisfaction.

Rod plate and swiveling eyelet complete in one piece, ready to drive. The plate locks automatically for driving and opens automatically to anchoring position when load is attached.

The plate ribbed lengthwise and cross-wise will hold more than any other plate, size for size. Rod and pin are tested to a load of 50 per cent more than the plate will hold.

Trade No.	Weight Pounds	Price Each
202523	11	\$1.50



Drive and Twist Guy Anchors



Coghlin Anchor  
In Position with  
Guy Wire Attached



Driving  
Position



## WESTON SWITCHBOARD INSTRUMENTS

FOR DIRECT CURRENT AND SINGLE-PHASE CIRCUITS

## WATTMETERS, MODEL 167

Model 167  
Single-phase Wattmeter

These wattmeters may be used with equal accuracy and without change of calibration, on direct current circuits or single-phase alternating current circuits of any frequency, power-factor or wave form, within the limits of usual commercial practice. The scale is uniform throughout the entire range of deflection.

All ranges are back-connected. Meters above 300 volts range have external resistance box. For ranges above 750 volts, both current and potential transformers are used, and for current ranges above 100 amperes current transformers must be used. For use with current transformers, the 5-ampere range instrument is recommended. These instruments may also be had in full flush cases for a slight extra charge.

## 100 to 150 Volts

Trade No.	Range Amperes	Scale	Price Each	Trade No.	Range Amperes	Scale	Price Each
085491	1	150 watts	\$68.75	085497	20	2 kw.	\$68.75
085492	2	300 watts	68.75	085498	20	3 kw.	68.75
085493	5	500 watts	68.75	085499	50	5 kw.	68.75
085494	5	750 watts	68.75	085500	50	7.5 kw.	68.75
085495	10	1 kw.	68.75	085501	100	10 kw.	77.00
085496	10	1.5 kw.	68.75	085502	100	15 kw.	77.00

## 200 to 300 Volts

085503	1	300 watts	77.00	085510	20	6 kw.	77.00
085504	2	600 watts	77.00	085511	20	7.5 kw.	77.00
085505	5	1 kw.	77.00	085512	50	10 kw.	77.00
085506	5	1.5 kw.	77.00	085513	50	15 kw.	77.00
085507	10	2 kw.	77.00	085514	100	20 kw.	84.00
085508	10	3 kw.	77.00	085515	100	30 kw.	84.00
085509	20	4 kw.	77.00				

## 400 to 600 Volts

085516	1	600 watts	84.00	085522	20	8 kw.	84.00
085517	2	1.2 kw.	84.00	085523	20	12 kw.	84.00
085518	5	2 kw.	84.00	085524	50	20 kw.	84.00
085519	5	3 kw.	84.00	085525	50	30 kw.	84.00
085520	10	4 kw.	84.00	085526	100	40 kw.	92.25
085521	10	6 kw.	84.00	085527	100	60 kw.	92.25

## 600 to 750 Volts

085528	1	750 watts	92.25	085534	20	10 kw.	92.25
085529	2	1.5 kw.	92.25	085535	20	15 kw.	92.25
085530	5	2.5 kw.	92.25	085536	50	25 kw.	92.25
085531	5	4 kw.	92.25	085537	50	40 kw.	92.25
085532	10	5 kw.	92.25	085538	100	50 kw.	103.25
085533	10	7.5 kw.	92.25	085539	100	75 kw.	103.25

## Dimensions

Diameter of case,  $9\frac{5}{8}$  inches; depth of case,  $3\frac{7}{8}$  inches; length of scale arc,  $6\frac{5}{8}$  inches.



# WESTON SWITCHBOARD INSTRUMENTS

FOR POLYPHASE CIRCUITS

WATTMETERS, MODEL 216



Model 216, Full-front Type  
Polyphase Wattmeter



Model 216, Semi-flush Type  
Polyphase Wattmeter

These wattmeters may be used with equal accuracy and without change of calibration, on direct current circuits or alternating current circuits of any frequency, power-factor or wave form, within the limits of usual commercial practice. The scale is uniform throughout the entire range of deflection.

These instruments have precisely the same characteristics as Model 167. All ranges are back-connected. Meters above 300 volts range have external resistance box. For ranges above 750 volts, both current and potential transformers are used, and for current ranges above 100 amperes current transformers must be used. For use with current transformers, the 5-ampere range instrument is recommended. They are regularly furnished with either one of two styles of case, namely: Full-front, and semi-flush. The semi-flush type projects beyond the front of the board just sufficiently to bring the front of the instrument in the same plane with other Weston A. C. Switchboard Instruments. Full flush instruments may be had at slight extra cost.

## 100 to 150 Volts

Trade No.	Range Amperes	Scale Kilowatts	Price Each	Trade No.	Range Amperes	Scale Kilowatts	Price Each
085560	5	1	\$96.25	085566	20	7.5	\$96.25
085561	5	1.5	96.25	085567	50	10	96.25
085562	10	2	96.25	085568	50	15	96.25
085563	10	3	96.25	085569	100	20	103.25
085564	20	4	96.25	085570	100	30	103.25
085565	20	6	96.25				

## 200 to 300 Volts

085571	5	2	103.25	085576	20	12	103.25
085572	5	3	103.25	085577	50	20	103.25
085573	10	4	103.25	085578	50	30	103.25
085574	10	6	103.25	085579	100	40	110.00
085575	20	8	103.25	085580	100	60	110.00

## 400 to 600 Volts

085581	5	4	110.00	085586	20	30	110.00
085582	5	6	110.00	085587	50	40	110.00
085583	10	8	110.00	085588	50	60	110.00
085584	10	12	110.00	085589	100	80	117.00
085585	20	20	110.00	085590	100	120	117.00

## 600 to 750 Volts

085591	5	5	117.00	085596	20	30	117.00
085592	5	7.5	117.00	085597	50	50	117.00
085593	10	10	117.00	085598	50	75	117.00
085594	10	15	117.00	085599	100	100	123.75
085595	20	20	117.00	085600	100	150	123.75

## Dimensions

Kind of Instrument	Size, Case, Diam.	INCHES Depth	Length of Scale Arc Inches
Full-front, three-phase, 5 to 20 amperes	9 11/16	6 11/16	6 5/8
Full-front, three-phase, 50 to 100 amperes	9 11/16	6 11/16	6 5/8
Full-front two-phase, 5 to 20 amperes	9 11/16	6 11/16	6 5/8



## WESTON SWITCHBOARD INSTRUMENTS

FOR ALTERNATING CURRENT

## SYNCHROSCOPES, MODEL 226

100 to 125 Volts

Model 226  
Synchroscope

Consist of a phase angle indicator mounted with its pointer behind a ground glass, and illuminated by a small synchronizing lamp installed behind the pointer and connected to synchronizing light. A difference in frequency between two machines causes the pointer to swing back and forth, but owing to the fact that the lamp is lighted only half the time the pointer is seen only during every other swing, and thus appears to rotate continuously in one direction. When the machines have the same frequency but are out of phase, the pointer comes to rest at one side or the other of the middle of the scale. Perfect synchronism is indicated by the pointer remaining at rest in the middle of the scale with the lamp lighted. The indications are absolutely infallible.

## Dimensions

Every synchroscope includes a lamp transformer, a condenser and a resistor mounted in a separate box. When used for other voltages than 100 to 125, potential transformers must be used. Can be calibrated for any frequency.

Trade No.	Cycles	Price Each	Trade No.	Cycles	Price Each
084946	25	\$85.00	084948	50	\$85.00
084947	40	86.00	084949	60	86.00

Diameter of case, 9 $\frac{5}{8}$  inches; depth of case, 3 $\frac{7}{8}$  inches; length of scale arc, 6 $\frac{3}{8}$  inches.

Model 215  
Power-Factor Meter

## POWER-FACTOR METERS, MODEL 215

These instruments indicate, from 2/10 load to full load, the true phase angle to within 1 per cent, independent of any variable conditions found on ordinary commercial circuits. Polyphase meters may be used on any commercial frequency. Single-phase meters require a phase-splitting device, and therefore must be calibrated for the frequency at which they are to operate. Specify frequency when ordering.

Polyphase meters are arranged for the following systems: two-phase, three-wire; and three-phase, three-wire balanced loads. Meters above 150-volt range are equipped with external resistance box. All meters have the same kind of scale, reading from 0.50 lag to 0.50 lead. Special scales for power-factors as low as 0.20 may be had at slight extra cost. May also be arranged as reactive factor meters.

100-150 V.			Polyphase		200-300 V.		400-600 V.		600-750 V.	
Range	Amperes	Scale	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
5	5-1-5		084950	\$75.75	084955	\$82.50	084960	\$96.25	084965	\$103.25
10	5-1-5		084951	75.75	084956	82.50	084961	96.25	084966	103.25
20	5-1-5		084952	82.50	084957	89.50	084962	103.25	084967	110.00
50	5-1-5		084953	82.50	084958	89.50	084963	103.25	084968	110.00
100	5-1-5		084954	89.50	084959	96.25	084964	110.00	084969	117.00

Price of single-phase meters, including auxiliary device for splitting the phase, is \$12.75 more than the corresponding range polyphase meter listed above. When ordering single phase meters, always specify the frequency.

## Dimensions

Diameter of case, 9 $\frac{5}{8}$  inches; depth of case, 3 $\frac{7}{8}$  inches; length of scale arc, 6 $\frac{3}{8}$  inches.

## FREQUENCY METERS, MODEL 214

The indications are independent of changes of temperature voltage and wave form, such as may be encountered in the commercial circuits of to-day. Made for use on 110 and 220 volt circuits. For voltage ranges outside of this, potential transformers must be used. Every frequency meter is provided with an external box, which contains reactors and resistors.

Trade No.	Cycles	Price Each	Trade No.	Cycles	Price Each
084971	25	\$82.50	084973	60	\$82.50
084972	40	82.50	084974	125	82.50
084976	50	82.50	084975	133	82.50

For 220-volt instrument add \$7.00 to above prices.

Model 214  
Frequency Meter



# WESTON AUTOMOBILE INSTRUMENTS

MODELS 301 AND 354



Model 301—Surface Type



Model 354—Flush Type

## MODEL 301

These instruments are specially built for the cowl or dashboard with a full knowledge of the exacting requirements of automobile and motor boat service.

They are designed for continuous reliability, operate upon the permanent magnet movable coil principle, and like all other Weston models, are constructed with the most conscientious regard for the service for which they are intended.

Model 301 instruments are made in two styles of cases, surface type and flush type.

Surface type: Diameter of case, 2.75 inches. Depth of case, 1.234 inches. Length of scale, 2.35 inches.

Flush type: Diameter of case, 3.25 inches. Depth of case, 1.171 inches. Length of scale, 2.35 inches.

Finished either in dead black japan or nickel.

### AMMETERS—ZERO LEFT

Surface Type	Flush Type			Surface Type	Flush Type		
Trade No.	Trade No.	Range	Price Each	Trade No.	Trade No.	Range	Price Each
115846	115867	0-1	\$8.00	115888	115907	0-8	\$8.00
115847	115868	0-1.5	8.00	115889	115908	0-10	8.00
115848	115869	0-2	8.00	115890	115909	0-12	8.00
115849	115870	0-2.5	8.00	115891	115910	0-15	8.00
115850	115871	0-3	8.00	115892	115911	0-20	8.00
115851	115872	0-4	8.00	115893	115912	0-25	8.00
115852	115873	0-5	8.00	115894	115913	0-30	8.00

### AMMETERS—ZERO CENTER

115853	115874	1-0-1	8.00	115895	115914	10-0-10	8.00
115854	115875	1.5-0-1.5	8.00	115896	115915	15-0-15	8.00
115855	115876	2-0-2	8.00	115897	115916	20-0-20	8.00
115856	115877	3-0-3	8.00	115898	115917	30-0-30	8.00
115857	115878	5-0-5	8.00				

### VOLTMETERS—ZERO LEFT

115858	115879	0-1	8.00	115899	115918	0-10	8.00
115859	115880	0-1.5	8.00	115900	115919	0-12	8.00
115860	115881	0-2	8.00	115901	115920	0-15	8.00
115861	115882	0-2.5	8.00	115902	115921	0-20	8.00
115862	115883	0-3	8.00	115903	115922	0-25	8.00
115863	115884	0-4	8.00	115904	115923	0-30	8.00
115864	115885	0-5	8.00	115905	115924	0-40	8.00
115865	115886	0-8	8.00	115906	115925	0-50	8.00

### VOLTMETERS—ZERO CENTER

115866	115887	3-0-3	8.00				
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## MODEL 354

Designed expressly for use on the dashboard of automobiles, motor boats or motor-cycles equipped with electric starting and lighting devices. The mechanical workmanship is of the highest grade and the electrical characteristics are such that the instrument may be depended upon to give perfect satisfaction and reliable indications under the extremely severe conditions of automobile service. Made in flush type, diameter over flange  $2\frac{1}{4}$  inches, and in surface type, diameter,  $2\frac{1}{4}$  inches.

115926	115928	10-0-10	4.25	115930	115932	20-0-20	4.25
115927	115929	15-0-15	4.25	115931	115933	30-0-30	4.25



## WESTON SWITCHBOARD INSTRUMENTS

FOR ALTERNATING CURRENT

## SYNCHROSCOPES, MODEL 226

100 to 125 Volts

Model 226  
Synchroscope

Consist of a phase angle indicator mounted with its pointer behind a ground glass, and illuminated by a small synchronizing lamp installed behind the pointer and connected to synchronize light. A difference in frequency between two machines causes the pointer to swing back and forth, but owing to the fact that the lamp is lighted only half the time the pointer is seen only during every other swing, and thus appears to rotate continuously in one direction. When the machines have the same frequency but are out of phase, the pointer comes to rest at one side or the other of the middle of the scale. Perfect synchronism is indicated by the pointer remaining at rest in the middle of the scale with the lamp lighted. The indications are absolutely infallible.

## Dimensions

Every synchroscope includes a lamp transformer, a condenser and a resistor mounted in a separate box. When used for other voltages than 100 to 125, potential transformers must be used. Can be calibrated for any frequency.

Trade No.	Cycles	Price Each	Trade No.	Cycles	Price Each
084946	25	\$86.00	084948	50	\$86.00
084947	40	86.00	084949	60	86.00

Diameter of case,  $9\frac{5}{8}$  inches; depth of case,  $3\frac{7}{8}$  inches; length of scale arc,  $6\frac{5}{8}$  inches.

## POWER-FACTOR METERS, MODEL 215

These instruments indicate, from 2/10 load to full load, the true phase angle to within 1 per cent, independent of any variable conditions found on ordinary commercial circuits. Polyphase meters may be used on any commercial frequency. Single-phase meters require a phase-splitting device, and therefore must be calibrated for the frequency at which they are to operate. Specify frequency when ordering.

Polyphase meters are arranged for the following systems: two-phase, three-wire; and three-phase, three-wire balanced loads. Meters above 150-volt range are equipped with external resistance box. All meters have the same kind of scale, reading from 0.50 lag to 0.50 lead. Special scales for power-factors as low as 0.30 may be had at slight extra cost. May also be arranged as reactive factor meters.

Model 215  
Power-Factor Meter

100-150 V.			Polyphase		200-300 V.		400-600 V.		600-750 V.	
Range	Amperes	Scale	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
5	5-1-5		084950	\$75.75	084955	\$82.50	084960	\$96.25	084965	\$103.25
10	5-1-5		084951	75.75	084956	82.50	084961	96.25	084966	103.25
20	5-1-5		084952	82.50	084957	89.50	084962	103.25	084967	110.00
50	5-1-5		084953	82.50	084958	89.50	084963	103.25	084968	110.00
100	5-1-5		084954	89.50	084959	96.25	084964	110.00	084969	117.00

Price of single-phase meters, including auxiliary device for splitting the phase, is \$13.75 more than the corresponding range polyphase meter listed above. When ordering single phase meters, always specify the frequency.

## Dimensions

Diameter of case,  $9\frac{5}{8}$  inches; depth of case,  $3\frac{7}{8}$  inches; length of scale arc,  $6\frac{5}{8}$  inches.

## FREQUENCY METERS, MODEL 214

The indications are independent of changes of temperature voltage and wave form, such as may be encountered in the commercial circuits of to-day. Made for use on 110 and 220 volt circuits. For voltage ranges outside of this, potential transformers must be used. Every frequency meter is provided with an external box, which contains reactors and resistors.

Trade No.	Cycles	Price Each	Trade No.	Cycles	Price Each
084971	25	\$82.50	084973	60	\$82.50
084972	40	82.50	084974	125	82.50
084976	50	82.50	084975	133	82.50

For 220-volt instrument add \$7.00 to above prices.

Model 214  
Frequency Meter



# WESTON AUTOMOBILE INSTRUMENTS

MODELS 301 AND 354



Model 301—Surface Type



Model 354—Flush Type

## MODEL 301

These instruments are specially built for the cowl or dashboard with a full knowledge of the exacting requirements of automobile and motor boat service.

They are designed for continuous reliability, operate upon the permanent magnet movable coil principle, and like all other Weston models, are constructed with the most conscientious regard for the service for which they are intended.

Model 301 instruments are made in two styles of cases, surface type and flush type.

Surface type: Diameter of case, 2.75 inches. Depth of case, 1.234 inches. Length of scale, 2.35 inches.

Flush type: Diameter of case, 3.25 inches. Depth of case, 1.171 inches. Length of scale, 2.35 inches.

Finished either in dead black japan or nickel.

### AMMETERS—ZERO LEFT

Surface Type	Flush Type			Surface Type	Flush Type		
Trade No.	Trade No.	Range	Price Each	Trade No.	Trade No.	Range	Price Each
115846	115867	0-1	\$8.00	115888	115907	0-8	\$8.00
115847	115868	0-1.5	8.00	115889	115908	0-10	8.00
115848	115869	0-2	8.00	115890	115909	0-12	8.00
115849	115870	0-2.5	8.00	115891	115910	0-15	8.00
115850	115871	0-3	8.00	115892	115911	0-20	8.00
115851	115872	0-4	8.00	115893	115912	0-25	8.00
115852	115873	0-5	8.00	115894	115913	0-30	8.00

### AMMETERS—ZERO CENTER

115853	115874	1-0-1	8.00	115895	115914	10-0-10	8.00
115854	115875	1.5-0-1.5	8.00	115896	115915	10-0-30	8.00
115855	115876	2-0-2	8.00	115897	115916	15-0-15	8.00
115856	115877	3-0-3	8.00	115898	115917	20-0-20	8.00
115857	115878	5-0-5	8.00			30-0-30	8.00

### VOLTMETERS—ZERO LEFT

115858	115879	0-1	8.00	115899	115918	0-10	8.00
115859	115880	0-1.5	8.00	115900	115919	0-12	8.00
115860	115881	0-2	8.00	115901	115920	0-15	8.00
115861	115882	0-2.5	8.00	115902	115921	0-20	8.00
115862	115883	0-3	8.00	115903	115922	0-25	8.00
115863	115884	0-4	8.00	115904	115923	0-30	8.00
115864	115885	0-5	8.00	115905	115924	0-40	8.00
115865	115886	0-8	8.00	115906	115925	0-50	8.00

### VOLTMETERS—ZERO CENTER

115866	115887	3-0-3	8.00
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## MODEL 354

Designed expressly for use on the dashboard of automobiles, motor boats or motor-cycles equipped with electric starting and lighting devices. The mechanical workmanship is of the highest grade and the electrical characteristics are such that the instrument may be depended upon to give perfect satisfaction and reliable indications under the extremely severe conditions of automobile service. Made in flush type, diameter over flange  $2\frac{1}{4}$  inches, and in surface type, diameter,  $2\frac{1}{4}$  inches.

115926	115928	10-0-10	4.25	115930	115932	20-0-20	4.25
115927	115929	15-0-15	4.25	115931	115933	30-0-30	4.25



## WESTON MINIATURE PRECISION INSTRUMENTS

FOR DIRECT CURRENT

MODEL 267 SWITCHBOARD VOLTMETERS, AMMETERS  
AND MILLIAMMETERS

This group of instruments consists of a variety of ranges of small switchboard ammeters and voltmeters, suitable for use in small isolated lighting plants, small power plants, signal systems, battery charging panels, and for all kinds of service where small switchboard indicating instruments are needed.

Model 267 Voltmeter  
Front ViewModel 267 Voltmeter  
Rear ViewModel 267 Ammeter  
Front ViewModel 267 Ammeter  
Rear ViewModel 268  
Front ViewModel 268  
Rear View

## Voltsmeters

Trade No.	Range	Price Each	Trade No.	Range	Price Each	Trade No.	Range	Price Each
084867	1	\$16.25	084876	7.5	\$16.25	084885	50	\$16.25
084868	1.2	16.25	084877	8	16.25	084886	60	16.25
084869	1.5	16.25	084878	10	16.25	084887	75	16.25
084870	2	16.25	084879	12	16.25	084888	80	16.25
084871	2.5	16.25	084880	15	16.25	084889	100	16.25
084872	3	16.25	084881	20	16.25	084890	120	16.25
084873	4	16.25	084882	25	16.25	084891	130	16.25
084874	5	16.25	084883	30	16.25	084892	150	16.25
084875	6	16.25	084884	40	16.25			

## Ammeters

084893	1	16.25	084899	4	16.25	084905	12	16.25
084894	1.2	16.25	084900	5	16.25	084906	15	16.25
084895	1.5	16.25	084901	6	16.25	084907	20	16.25
084896	2	16.25	084902	7.5	16.25	084908	25	16.25
084897	2.5	16.25	084903	8	16.25	084909	30	16.25
084898	3	16.25	084904	10	16.25			

## Ammeters with External Shunts

For high ampere readings, Model 267 will be furnished as a millivoltmeter adjusted to external shunts. Information and prices relative to such instruments will be supplied upon application.

## Dimensions

Vertical, 3.35 inches; horizontal, 4.1 inches; depth, 1.1 inches.

## MODEL 268 SWITCHBOARD VOLTAMMETERS

Adapted for use in electrolytic work, charging and discharging small storage batteries, and for service in connection with direct current ignition systems for gas and gasoline engines, and in all classes of work in which a single instrument is necessary for indicating either potential difference or current.

Trade No.	Volts	Amperes	Price Each	Trade No.	Volts	Amperes	Price Each
084910	10-0-15	10-0-15	\$24.75	084918	5-0-15	10-0-30	\$24.75
084911	10-0-15	2-0-3	24.75	084919	5-0-10	5-0-10	24.75
084912	10-0-15	20-0-30	24.75	084920	10-0-20	2-0-4	24.75
084913	7.5-0-15	7.5-0-15	24.75	084921	5-0-10	1-0-2	24.75
084914	7.5-0-15	15-0-30	24.75	084922	5-0-10	10-0-20	24.75
084915	7.5-0-15	1.5-0-3	24.75	084923	10-0-20	5-0-10	24.75
084916	1.5-0-3	7.5-0-15	24.75	084924	10-0-20	1-0-2	24.75
084917	5-0-15	1-0-3	24.75	084925	10-0-20	10-0-20	24.75

## Dimensions

Vertical, 4.25 inches; horizontal, 4.2 inches; depth, 1.35 inches.



# WESTON MINIATURE PRECISION INSTRUMENTS

FOR DIRECT CURRENT

## MODEL 280—PORTABLE INSTRUMENTS

These instruments are all the same size and can be carried in an ordinary coat pocket. They are made in a great variety of ranges and are admirably adapted to all kinds of commercial and experimental testing that falls within their limits of e.m.f. and current.



Single Range Voltmeter



Triple Range Ammeter



Double Range Voltmeter



Triple Range Voltmeter



Single Range Ammeter



Double Range Ammeter

### Single Range Millivoltmeters

Trade No.	Range	Price Each	Trade No.	Range	Price Each	Trade No.	Range	Price Each
085002	50	\$18.75	085007	120	\$18.75	085012	300	\$18.75
085003	60	18.75	085008	130	18.75	085013	400	18.75
085004	75	18.75	085009	150	18.75	085014	500	18.75
085005	80	18.75	085010	200	18.75	085015	600	18.75
085006	100	18.75	085011	250	18.75	085016	750	18.75

### Single Range Voltmeters

085017	1	18.75	085026	7.5	18.75	085035	50	18.75
085018	1.2	18.75	085027	8	18.75	085036	60	18.75
085019	1.5	18.75	085028	10	18.75	085037	75	18.75
085020	2	18.75	085029	12	18.75	085038	80	18.75
085021	2.5	18.75	085030	15	18.75	085039	100	18.75
085022	3	18.75	085031	20	18.75	085040	120	18.75
085023	4	18.75	085032	25	18.75	085041	130	18.75
085024	5	18.75	085033	30	18.75	085042	150	18.75
085025	6	18.75	085034	40	18.75			

### Double Range Voltmeters

085043	20-2	21.75	085046	30-3	21.75	085049	80-8	21.75
085044	20-8	21.75	085047	50-2.5	21.75	085050	100-10	21.75
085045	25-2.5	21.75	085048	50-5	21.75	085051	150-15	21.75

### Triple Range Voltmeters

085052	25-10-2.5	24.75	085056	40-20-4	24.75	085060	80-20-4	24.75
085053	30-3-1.5	24.75	085057	50-5-2.5	24.75	085061	100-25-2.5	24.75
085054	30-6-3	24.75	085058	50-25-5	24.75	085062	150-15-1.5	24.75
085055	30-15-3	24.75	085059	50-25-10	24.75	085063	150-15-3	24.75

### Single Range Milliammeters

085064	50	18.75	085069	120	18.75	085074	300	18.75
085065	60	18.75	085070	130	18.75	085075	400	18.75
085066	75	18.75	085071	150	18.75	085076	500	18.75
085067	80	18.75	085072	200	18.75	085077	600	18.75
085068	100	18.75	085073	250	18.75	085078	750	18.75

### Single Range Ammeters

085079	1	18.75	085085	4	18.75	085091	12	18.75
085080	1.2	18.75	085086	5	18.75	085092	15	18.75
085081	1.5	18.75	085087	6	18.75	085093	20	18.75
085082	2	18.75	085088	7.5	18.75	085094	25	18.75
085083	2.5	18.75	085089	8	18.75	085095	30	18.75
085084	3	18.75	085090	10	18.75			

### Double Range Ammeters

085096	1-0.1	21.75	085100	8-2	21.75	085104	25-2.5	21.75
085097	2.5-0.25	21.75	085101	10-1	21.75	085105	25-5	21.75
085098	5-0.1	21.75	085102	15-1.5	21.75	085106	30-3	21.75
085099	5-0.5	21.75	085103	20-2	21.75			

### Triple Range Ammeters

085107	5-2.5-0.25	24.75	085113	20-4-2	24.75	085122	25-10.5	24.75
085108	10-1-0.1	24.75	085114	20-8-2	24.75	085118	30-3-1.5	24.75
085110	10-1-0.5	24.75	085115	25-2.5-0.5	24.75	085119	30-6-3	24.75
085111	10-2.5-1	24.75	085116	25-5-2.5	24.75	085120	30-15-3	24.75
085112	15-3-0.15	24.75	085117	25-10-2.5	24.75	085121	15-3-1.5	24.75

### Dimensions

Vertical, 4.6 inches, horizontal, 4.4 inches; depth, 1.5 inches.



# WESTON MINIATURE PRECISION INSTRUMENTS

## FOR DIRECT CURRENT

### MODEL 280—PORTABLE VOLT-AMMETERS

These instruments possess the same characteristics and advantages as the switchboard instruments. They should be of great value in many kinds of commercial testing where the simultaneous reading of current and e. m. f. is not necessary.



Single Range



Double Range



Triple Range

Single Range				Single Range			
Trade No.	Range Volts	Amperes	Price Each	Trade No.	Range Volts	Amperes	Price Each
085142	1.5	3	\$28.50	085173	20	4	\$28.50
085143	3	1.5	28.50	085174	20	20	28.50
085144	3	3	28.50	085175	25	1	28.50
085145	3	12	28.50	085176	25	5	28.50
085146	3	15	28.50	085177	25	25	28.50
085147	3	30	28.50	085178	30	1.5	28.50
085148	4	8	28.50	085179	30	3	28.50
085149	5	1	28.50	085180	30	6	28.50
085150	5	5	28.50	085181	30	30	28.50
085151	5	10	28.50	085182	40	2	28.50
085152	6	6	28.50	085183	40	8	28.50
085153	6	12	28.50	085184	40	20	28.50
085154	6	30	28.50	085185	50	1	28.50
085155	7.5	1.5	28.50	085186	50	5	28.50
085156	7.5	7.5	28.50	085187	50	10	28.50
085157	7.5	15	28.50	085188	50	25	28.50
085158	8	2	28.50	085189	60	3	28.50
085159	8	4	28.50	085190	60	15	28.50
085160	8	8	28.50	085191	60	30	28.50
085161	8	20	28.50	085192	75	15	28.50
085162	10	1	28.50	085193	80	20	28.50
085163	10	5	28.50	085194	100	1	28.50
085164	10	10	28.50	085195	100	10	28.50
085165	10	25	28.50	085196	100	25	28.50
085166	12	30	28.50	085197	120	3	28.50
085167	15	1.5	28.50	085198	120	12	28.50
085168	15	3	28.50	085199	120	30	28.50
085169	15	7.5	28.50	085200	150	1.5	28.50
085170	15	15	28.50	085201	150	3	28.50
085171	15	30	28.50	085202	150	15	28.50
085172	20	2	28.50	085203	150	30	28.50

Double Range				Double Range			
085204	20-2	8-2	34.50	085213	50-5	5-0.1	34.50
085205	20-8	20-2	34.50	085214	50-5	10-1	34.50
085206	25-2.5	2.5-0.25	34.50	085215	50-5	25-2.5	34.50
085207	25-2.5	5-0.5	34.50	085216	50-5	25-5	34.50
085208	25-2.5	25-2.5	34.50	085217	80-8	20-2	34.50
085209	30-3	15-1.5	34.50	085218	100-10	25-2.5	34.50
085210	30-3	30-3	34.50	085219	150-15	15-1.5	34.50
085211	50-2.5	5-0.5	34.50	085220	150-15	30-3	34.50
085212	50-5	1-0.1	34.50				

Triple Range				Triple Range			
085221	25-10-2.5	10-2.5-1	40.50	085231	50-25-2.5	25-2.5-0.5	40.50
085222	30-3-1.5	30-3-1.5	40.50	085232	50-25-5	25-5-2.5	40.50
085223	30-6-3	30-6-3	40.50	085233	50-25-10	10-1-0.5	40.50
085224	30-15-3	15-3-0.150	40.50	085234	50-25-10	10-2.5-1	40.50
085225	30-15-3	30-15-3	40.50	085235	50-25-10	25-10-5	40.50
085226	40-20-4	20-4-2	40.50	085236	80-20-4	20-8-2	40.50
085227	50-5-2.5	5-2.5-0.25	40.50	085237	100-25-2.5	25-10-2.5	40.50
085228	50-5-2.5	10-1-0.1	40.50	085238	150-15-1.5	30-3-1.5	40.50
085229	50-5-2.5	25-5-2.5	40.50	085239	150-15-3	15-3-1.5	40.50
085230	50-25-2.5	10-5-0.5	40.50	085240	150-15-3	30-3-1.5	40.50

#### Dimensions

Vertical, 4.6 inches; horizontal, 4.4 inches; depth, 1.5 inches.

Vertical, 3.35 inches.

Vertical, 3.



# WESTON MINIATURE PRECISION INSTRUMENTS

FOR DIRECT CURRENT

## MODEL 279, PORTABLE BATTERY TESTERS



Voltmeter



Ammeter

These instruments consist of a battery testing voltmeter and a variety of ranges of ammeters. They are designed to facilitate the accurate and rapid testing of single cells of storage and other batteries. The voltmeter is provided with a special detachable spike terminal, designed to minimize the time required to make a test. In form it resembles somewhat a speed indicator, and is extremely convenient to manipulate and to read.

The ammeter also has conveniently arranged binding posts, but otherwise it resembles in general appearance the switchboard instruments. The form of the case of both the voltmeter and the ammeter is convenient to hold in the hand, thus adding much to the general usefulness of the instruments.

### VOLTMETERS

Trade No.	Range Volts	Price Each
085261	3-0-3	\$17.00

### ZERO CENTER AMMETERS

Trade No.	Range Amperes	Price Each	Trade No.	Range Amperes	Price Each
085262	1-0-1	\$17.00	085267	7.5-0-7.5	\$17.00
085263	1.5-0-1.5	17.00	085268	10-0-10	17.00
085264	2-0-2	17.00	085269	15-0-15	17.00
085265	3-0-3	17.00	085270	20-0-20	17.00
085266	5-0-5	17.00	085271	30-0-30	17.00

### ZERO LEFT AMMETERS

085272	1	17.00	085278	7.5	17.00
085273	1.5	17.00	085279	10	17.00
085274	2	17.00	085280	15	17.00
085275	3	17.00	085281	20	17.00
085276	4	17.00	085282	25	17.00
085277	5	17.00	085283	30	17.00

### DIMENSIONS

#### Voltmeters

Vertical, case only, 3.5 inches, with terminal, 4.9 inches; horizontal, 4.2 inches; depth, 1.35 inches.

#### Ammeters

Vertical, 3.7 inches; horizontal, 4.2 inches; depth, 1.4 inches.



## BIERCE GUY ANCHORS



Will not Creep After Being Installed

Work on the principle of the inverted wedge. Made in one solid piece. Exceptional holding power in dry sand or swampy soil.

One man can bore hole with auger, set anchor and tamp it in 15 minutes.

Does away with expanding, screwing, driving and guessing.

12500 pounds will not move the 8-inch size in any kind of soil when properly tamped.

**Be Sure to Dig Hole with Auger**

Bore a hole not less than 5 feet deep with an earth auger of same diameter as Bierce Anchor. Use  $\frac{1}{2}$ -inch,  $\frac{5}{8}$ -inch or  $\frac{3}{4}$ -inch anchor rods, as desired. Drop the anchor into the hole with the point up. Tamp a quantity of broken stone or brick firmly around the anchor and it is ready to attach to the guy wire.

The cone shape of the anchor exerts a lateral pressure and forces the stones into walls of the hole. The earth may be back-filled loosely or tamped, as desired.

Trade No.	Size of Anchor Inches	Will Take Rod Inches	Wt., Lbs. per 100	Price Each
55704	5	$\frac{1}{2}$	230	\$0.90
55703	6	$\frac{5}{8}$	290	1.00
55702	8	$\frac{3}{4}$	570	1.20
55701	12	1	1500	2.20

Prices do not include rods. Use standard guy rods.



ESTERLINE-ANGUS  
GRAPHIC RECORDING INSTRUMENTS

Portable Type

Trade No.	Price Each
203983	\$275.00

## AMMETERS

## ALTERNATING CURRENT

## Without Current Transformers or Shunts

Alternating current ammeters give full scale on 5, 7½ and 10 amperes. For larger capacities they are to be used in connection with current transformers of 5-ampere secondaries. Where an instrument is to be permanently connected to one transformer, a scale and chart may be furnished to indicate the line current direct.

These ammeters cannot be furnished with a zero center.

They are accurate on all commercial frequencies and direct current circuits within the range of their capacity but cannot be used with shunts.

Alternating current ammeters require approximately 14-volt amperes at full scale for their operation.

Portable instruments are furnished with flexible leads 5 feet long. No leads are furnished with wall and switchboard type.

AMPERES RANGE.—Within the capacity of the transformers or shunts used.

## Wall Type

Trade No.	Price Each
203984	\$225.00

## Switchboard Type

Trade No.	Price Each
203985	\$225.00

AMMETERS, MILLIVOLTMETERS  
DIRECT CURRENT

Direct current ammeters are millivoltmeters used with shunts. They are calibrated for a drop of 100 millivolts for all ranges. Rated drop is taken at end of leads. Shunts are required for all capacities.

Can be operated from shunts of any manufacture by calibrating to correspond with the drop of the shunt to which they are to be connected by furnishing all technical data regarding the shunt.

They can be furnished with a zero shifting device which permits their use as a center zero instrument or a left hand zero instrument.

D. C. ammeters and millivoltmeters require approximately 45/100 of an ampere for operation.

Portable, wall and switchboard instruments are furnished with flexible leads 5 feet long.

AMPERES RANGE.—Within the capacity of the transformers or shunts used.

## Portable Type

Trade No.	Price Each
203986	\$275.00

## Wall Type

Trade No.	Price Each
203987	\$225.00

## Switchboard Type

Trade No.	Price Each
203988	\$225.00

## POWER FACTOR INSTRUMENTS

Power factor meters can be furnished with a nominal voltage rating of 100 volts, 200 volts or 500 volts. The current coils are of 5-ampere capacity.

Separate external resistances may be furnished which will permit the use of 100-volt instruments on 200 or 500-volt circuits or both. Power factor instruments require two potential circuits and one current circuit. When used on circuits where the current exceeds 5 amperes, one current transformer is required. When used on circuits having a potential greater than the rated capacity of the instrument, two potential transformers are required.

The resistances of all power factor meters are designed for continuous operation on voltages 35 per cent in excess of the rated capacity. They require approximately 14-volt amperes in the current circuit and 6 watts at 100 volts in each potential circuit for their operation.

Portable instruments are furnished with flexible leads 5 feet long. No leads are furnished with wall and switchboard type power factor meters.

## Portable Type

Amperes	Volts	Trade No.	Price Each
5	100	203989	\$250.00
5	200	203990	260.00
5	500	203991	270.00

## Wall Type

Trade No.	Price Each
203992	\$215.00
203994	225.00
203995	235.00

## Switchboard Type

Trade No.	Price Each
203996	\$215.00
203997	225.00
203998	235.00

## THREE PHASE

Instruments can be built self-contained for two ranges only. Add \$10.00 list additional for second range basing price of instrument on highest range. External resistance for third range \$50.00 list additional.

## TWO-PHASE

Instruments can be built self-contained for three ranges. Add \$10.00 list additional for each range basing price of instrument on highest range.

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Trade No.	Amperes
204018	5
204019	5
204020	5
204021	5

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## ESTERLINE-ANGUS GRAPHIC RECORDING INSTRUMENTS



Wall Type

### WATTMETERS

#### DIRECT CURRENT WITHOUT TRANSFORMERS OR SHUNTS

Instruments of one, two or three voltage ranges, self contained, may be furnished. The price of the instrument is based on the maximum range.

Two-wire wattmeters operate from one 100-millivolt shunt taking 10 amperes from the shunt at full load. Two separate current coils are used, each taking 5 amperes with a drop of 100 millivolts at the end of the leads. The coils are connected in parallel at the shunt.

Three-wire operate from two 100-millivolt shunts, taking 5 amperes from each shunt at full load. The current coils are calibrated for a drop of 100 millivolts at the ends of the leads. The potential coils are connected from neutral to outers. In ordering, the voltage across the two outers as well as from neutral to outer should be specified.

Three-wire wattmeters may be used on two-wire direct current by connecting the shunts in parallel and the potential coils in parallel. They require approximately 3-volt amperes at full load in each current circuit and 8 watts at 100 volts in each potential circuit.

#### ALTERNATING CURRENT WITHOUT TRANSFORMERS OR SHUNTS

One hundred volts should always be specified in case it is desired to use the instrument in connection with potential transformers. Other ranges are furnished for use directly across the line without voltage transformers. Single and polyphase wattmeters are constructed identically the same, the external diagram for connections being the only difference.

Alternating current wattmeters require approximately 7-volt amperes at full load in each current circuit and approximately 6 watts at 110 volts in each potential circuit for their operation.

#### PRICES

Amperes	Volts	Portable Type		Wall Type		Switchboard Type	
		Price Each	Price Each	Trade No.	Price Each	Trade No.	Price Each
5	100	204009	\$250.00	204012	\$215.00	204015	\$215.00
5	200	204010	260.00	204013	225.00	204016	225.00
5	500	204011	270.00	204014	235.00	204017	235.00

### UTILITY WATTMETERS A.C. AND D.C.

Utility wattmeters are special combination instruments, furnished in the portable type only, for interchangeable use on two and three-wire direct current and single and polyphase alternating current of all commercial frequencies. The current coils are of 5-ampere capacity and are calibrated for use with 100 millivolt shunts on direct current and current transformers of 5-ampere secondary on alternating current. They are furnished self contained for use on circuits where the voltage is within the capacities listed.

Two current transformers are required on polyphase circuits and one current transformer on single-phase. Three-phase four-wire circuits require the use of three-current transformers. Two shunts are required for three-wire direct current and the same two shunts may be used on two-wire or a single standard two-wire wattmeter shunt may be used.

They require approximately 3-volt amperes at full load in each current circuit and approximately 8 watts at 100 volts in each potential circuit for their operation.

Trade No.	Amps.	Volts	Price Each	Trade No.	Amps.	Volts	Price Each
204018	5	100	\$260.00	204022	5	100-500	\$290.00
204019	5	200	270.00	204023	5	200-500	290.00
204020	5	500	280.00	204024	5	100-200-500	300.00
204021	5	100-200	280.00				

NOTE.—The following applies to the wattmeters listed above: A.C. and D.C. wattmeters have current coils of 5-ampere capacity and the potential resistances may be tapped for several voltages as listed. The resistances of all meters are designed for continuous operation at voltages 35 per cent in excess of the rated capacity. When an instrument is to be connected permanently to one set of shunts, it may be calibrated to be direct reading.

All wattmeters can be furnished for a left hand zero or center zero but they cannot be furnished for both as the internal construction of a zero center instrument differs from the internal construction of a left hand zero instrument.

Portable instruments are furnished with flexible leads 5 feet long. No leads are furnished with wall and switchboard type.



ESTERLINE-ANGUS  
GRAPHIC RECORDING INSTRUMENTS

Switchboard Type

## VOLTMETERS

## DIRECT CURRENT

The minimum capacity of these voltmeters regularly furnished is 5 volts for full scale. Additional ranges may be furnished by tapping the resistance at various points in which case the price of the meter is based on the maximum range.

Can be specially calibrated for use on A. C. and D. C. where the lowest full scale value is 150 volts or more. For this special calibration an additional charge of \$10.00 list per range so calibrated is made.

May be furnished with a zero shifting device which permits their use as a center zero instrument or a left hand zero instrument. Combination A. C.-D. C. voltmeters cannot be furnished with a zero shifting device.

They require approximately 1/20 of an ampere for their operation.

Portable instruments are furnished with flexible leads 5 feet long. No leads are furnished with wall and switchboard type D. C. voltmeters.

Portable Type			Wall Type		Switchboard Type	
Volts Range	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
0-5	204035	\$275.00	204043	\$225.00	204051	\$225.00
0-10	204036	275.00	204044	225.00	204052	225.00
0-15	204037	276.00	204045	226.00	204053	226.00
0-25	204038	277.50	204046	227.50	204054	227.50
0-30	204039	279.00	204047	229.00	204055	229.00
0-50	204040	280.00	204048	230.00	204056	230.00
0-75	204041	281.00	204049	231.00	204057	231.00
0-100	204042	282.50	204050	232.50	204058	232.50

## ALTERNATING AND DIRECT CURRENT

The minimum capacity of alternating current voltmeters is 150 volts for full scale. Additional ranges may be furnished for use without transformers in which case the price of the meter is based on the maximum range. For voltages above 750 volts, these instruments must be used in connection with potential transformers.

Can be calibrated for use on A. C. and D. C. at an additional charge of \$10.00 list per range so calibrated. A.C. voltmeters and combination A.C.-D.C. voltmeters cannot be furnished with a center zero. The frequency of the circuit on which the instrument is to be used must be specified.

Where an alternating current voltmeter is to be used on both 25 and 60-cycle and the voltage of the circuit is 500 volts or less, it is necessary to provide the instrument with an extra tap and make an extra calibration for each range. For this extra calibration an additional charge of \$10.00 list per range is made.

They require approximately 1/5 of an ampere for their operation.

Portable instruments are furnished with flexible leads 5 feet long. No leads are furnished with wall and switchboard type A.C. voltmeters.

0-150	204059	285.00	204066	235.00	204073	235.00
0-200	204060	287.50	204067	237.50	204074	237.50
0-250	204061	290.00	204068	240.00	204075	240.00
0-300	204062	295.00	204069	245.00	204076	245.00
0-500	204063	300.00	204070	250.00	204077	250.00
0-600	204064	302.50	204071	255.00	204078	255.00
0-750	204065	305.00	204072	260.00	204079	260.00

For each additional range, add \$10.00 list to base price.

## KILO-VOLT AMPERE METERS

Made in all commercial voltages and frequencies for polyphase circuits. Prices and technical data on application.

## RESISTANCE AND CONCENTRATION METERS

For measuring resistance and for determining conductivity of solutions. Graphic and indicating types. Prices and technical data on application.

A new portable  
1.—Last also  
2.—Rating  
simultaneously  
3.—Has con  
continuously  
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204080 Ester

Shunts are  
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Specify wher

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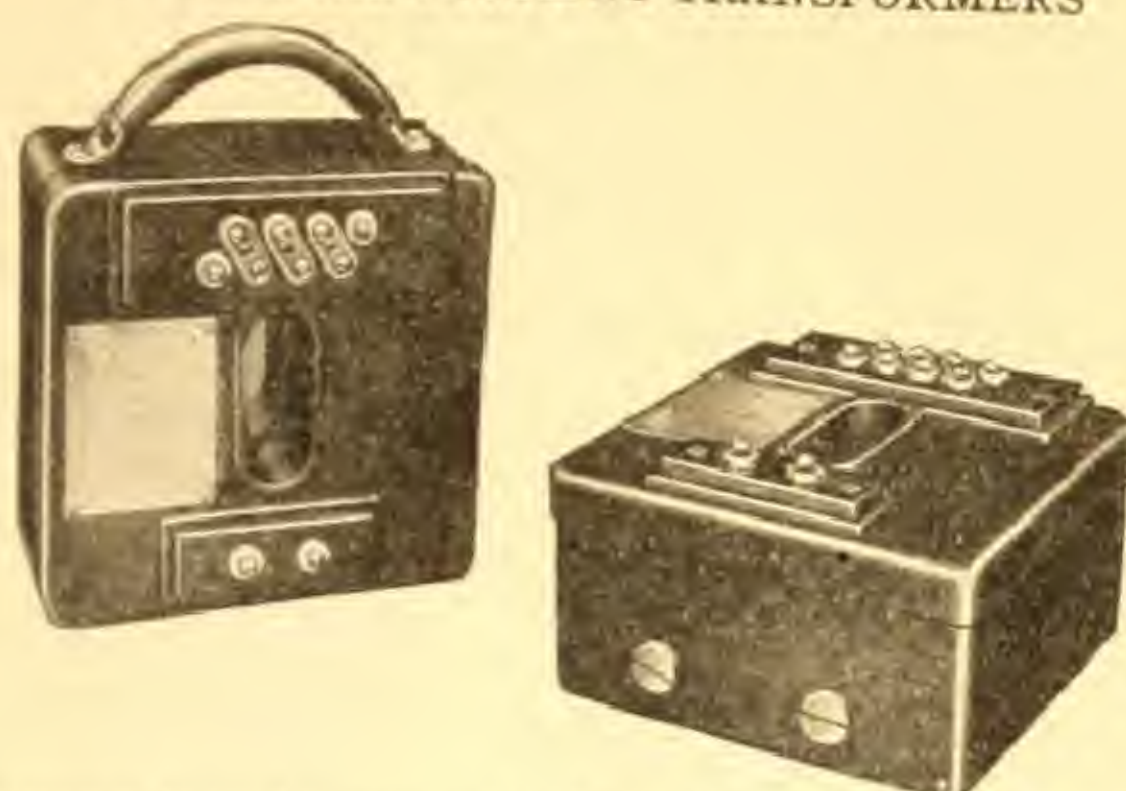
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# ESTERLINE-ANGUS GRAPHIC RECORDING INSTRUMENTS UNIVERSAL CURRENT TRANSFORMERS



A new portable current transformer, embodying the following characteristics:

- 1.—Cast aluminium case, to withstand heat, moisture and rough handling.
- 2.—Rating 25 volt-amperes; high accuracy when operating several instruments simultaneously.
- 3.—Has continuous overload capacity of 50 per cent; no danger of over-heating when used continuously.
- 4.—High degree of insulation, made permanent by filling with compound.
- 5.—Six primary ranges, from 25 to 800 amperes, does the work of three old style transformers.

Trade No.	Description	Price Each
204090	Esterline-Angus universal current transformer	\$75.00

## SHUNTS

Shunts are furnished in portable and switchboard types for direct current wattmeters and ammeters. All standard shunts are 100 millivolt drop.

Specify whether the shunts are to be used with an ammeter, two-wire or three-wire wattmeter.

Portable Type					Switchboard Type				
Amps. Cap.	Trade No.	Price Each	Trade No.	Price Each	Amps. Cap.	Trade No.	Price Each	Trade No.	Price Each
10	204091	\$9.50	204100	\$8.50	500	204109	\$33.50	204118	\$25.00
25	204092	10.00	204101	8.50	750	204110	43.00	204119	36.00
50	204093	10.50	204102	9.00	1000	204111	52.50	204120	42.00
100	204094	12.50	204103	11.00	1500	204112	63.00	204121	60.00
150	204095	15.00	204104	12.50	2000	204113	73.50	204122	70.00
200	204096	17.50	204105	14.50	2500	204114	95.00	204123	90.00
250	204097	20.50	204106	16.00	3000	204115	125.00	204124	120.00
300	204098	23.00	204107	17.50	4000	204116	155.00	204125	150.00
400	204099	28.00	204108	21.00	5000	204117	190.00	204126	185.00

Above prices apply only to standard designs.

Prices on larger sizes furnished on application.

## PARTS

**CHART FEEDS.**—The standard chart feed is 3 inches per hour and meters will be furnished with gears for this feed unless otherwise specified on the order. Gears for  $\frac{3}{4}$ ,  $1\frac{1}{2}$ , 6 and 12 inch per hour can be furnished at any time for all meters at a small additional charge.

A rapid feed attachment which makes possible the operation of the chart at a feed sufficiently high to make a clear record of a rapidly varying quantity, may be furnished on Esterline Instruments of all types. This attachment gives in addition to the five hourly feeds mentioned above, chart feeds of  $\frac{3}{4}$ ,  $1\frac{1}{2}$ , 3 and 6 inch per minute. The rapid attachment is built into the clock and can only be furnished when the instrument is originally ordered and cannot be incorporated later without completely rebuilding the clock.

Trade No.	Description	Price Each
204127	Gears for chart feeds of $\frac{3}{4}$ , $1\frac{1}{2}$ , 3, 6 and 12 inch per hour	\$2.00
204128	Minute feed attachment on clock with gears to give chart feeds of $\frac{3}{4}$ , $1\frac{1}{2}$ , 3, 6 and 12-inch per hour and $\frac{3}{4}$ , $1\frac{1}{2}$ , 3 and 6 inch per minute	35.00
204129	Extended drive roll	12.00
204130	Flexible coupling	15.00
204131	Chronograph pen	25.00
204132	M. S. pen element, complete, No. 3154	2.50
204133	E. B. pen element, complete No. 82-A	2.50
204134	Zero shifting device	15.00



## ESTERLINE-ANGUS GRAPHIC RECORDING INSTRUMENTS

**RECORD CHARTS.**—Record charts for Esterline Instruments are furnished in rolls 6 inches wide and 90 feet long. The width of the scale on the chart is  $4\frac{1}{2}$  inches. Chart Mfrs. numbers are made up of the chart range number followed by a letter designating the chart feed as follows: A— $\frac{3}{4}$  inches; B— $1\frac{1}{2}$  inches; C—3 inches; D—6 inches; E—12 inches. For instance, a 0-1 Kw. chart with a chart speed of 3 inches per hour would be designated as follows: 2310-C.

### CHARTS FOR ESTERLINE D'ARSONVAL TYPE

#### Direct Current Ammeters and Voltmeters

Mfrs. No.	Range	Mfrs. No.	Range	Mfrs. No.	Range	Mfrs. No.	Range
4300		4312 $\frac{1}{2}$	0-75	4320 $\frac{1}{2}$	0-800	4328	0-15000
4301		4312 $\frac{5}{8}$	0-80	4321	0-1000	4329	0-20000
4302		4313	0-100	4321 $\frac{1}{2}$	0-1200	4330	0-25000
4334		4313 $\frac{1}{4}$	0-120	4322	0-1500	4330 $\frac{1}{2}$	0-30000
4305	0-1	4313 $\frac{5}{8}$	0-125	4322 $\frac{1}{2}$	0-1600	4331	5-0-5
4306	0-2	4314	0-150	4323	0-2000	4332	10-0-10
4306 $\frac{1}{4}$	0-2.5	4340	0-150	4323 $\frac{1}{2}$	0-2500	4335	75-0-75
4306 $\frac{5}{8}$	0-4	4314 $\frac{1}{4}$	0-160	4324	0-3000	4333	100-0-100
4309	0-5	4315	0-200	4324 $\frac{1}{2}$	0-4000	4335 $\frac{1}{2}$	150-0-150
4310	0-10	4316	0-250	4325	0-5000	4333 $\frac{1}{4}$	250-0-250
4310 $\frac{1}{2}$	0-15	4317	0-300	4325 $\frac{1}{2}$	0-6000	4343	300-0-300
4310 $\frac{5}{8}$	0-20	4317 $\frac{5}{8}$	0-375	4326	0-7500	4336	750-0-750
4311	0-25	4318	0-400	4341	0-7500	4345	1000-0-1000
4311 $\frac{1}{2}$	0-30	4319	0-500	4326 $\frac{1}{2}$	0-8000	4333 $\frac{1}{2}$	10000-0-10000
4311 $\frac{5}{8}$	0-40	4319 $\frac{1}{2}$	0-600	4237	0-10000		
4312	0-50	4320	0-750	4327 $\frac{1}{2}$	0-12000		

### CHARTS FOR ESTERLINE DYNAMOMETER TYPE

#### Alternating Current Ammeters and Voltmeters

Mfrs. No.	Range	Mfrs. No.	Range	Mfrs. No.	Range	Mfrs. No.	Range
1300		1314 $\frac{1}{2}$	0-75	1320 $\frac{1}{2}$	0-600	1327 $\frac{1}{2}$	0-6000
1301		1315	0-100	1321	0-750	1328	0-7500
1310	0-5	1316	0-150	1322	0-1000	1329	0-10000
1311	0-10	1317	0-200	1323	0-1500	1330	0-15000
1312	0-15	1318	0-250	1324	0-2000	1331	0-20000
1313	0-25	1319	0-300	1325	0-3000		
1313 $\frac{1}{2}$	0-30	1319 $\frac{1}{2}$	0-400	1326	0-4000		
1314	0-50	1320	0-500	1327	0-5000		

#### Alternating and Direct Current Wattmeters

2300		2315 $\frac{1}{2}$	0-30	2322 $\frac{1}{2}$	0-375	2331	0-4000
2301		2315 $\frac{5}{8}$	0-40	2323	0-400	2332	0-5000
2302		2316	0-50	2323 $\frac{1}{2}$	0-450	2332 $\frac{1}{2}$	0-6000
2341		2316 $\frac{1}{2}$	0-60	2324	0-500	2333	0-7500
2310	0-1	2317	0-75	2324 $\frac{1}{2}$	0-600	2333 $\frac{1}{2}$	0-8000
2310 $\frac{1}{2}$	0-2	2317 $\frac{1}{2}$	0-80	2325	0-750	2334	0-10000
2311	0-2.5	2318	0-100	2325 $\frac{1}{2}$	0-800	2334 $\frac{1}{2}$	0-12000
2311 $\frac{1}{2}$	0-3	2318 $\frac{1}{2}$	0-120	2326	0-1000	2334 $\frac{3}{8}$	0-12500
2311 $\frac{5}{8}$	0-4	2318 $\frac{5}{8}$	0-125	2326 $\frac{1}{2}$	0-1200	2335	0-15000
2312	0-5	2319	0-150	2327	0-1500	2339	
2313	0-10	2319 $\frac{1}{2}$	0-160	2327 $\frac{1}{2}$	0-1600	2336	100-0-100
2313 $\frac{1}{2}$	0-12.5	2320	0-200	2328	0-2000	2340	3200-0-3200
2314	0-15	2320 $\frac{1}{2}$	0-225	2328 $\frac{1}{2}$	0-2400	2337	4000-0-4000
2314 $\frac{1}{2}$	0-20	2321	0-250	2329	0-2500	2338	10000-0-10000
2315	0-25	2322	0-300	2330	0-3000		

### CHARTS FOR POWER FACTOR METERS

Mfrs. No.	Description	Price Each
1403	Range, 40-100	
1407	Range, 50 per cent lagging—unity—70 per cent leading	

Prices Quoted upon Application



QUEEN INSTRUMENTS



No. E3108



No. E3200



Pat. Applied For  
No. E100



No. E3270B



No. E3116

DIAL DECADE PORTABLE TESTING SETS

Trade No.	Mfrs. No.	Description	Price Each
201779	E3108	With galvanometer shunt	\$140 00
201780	E3109	Sole leather carrying case and strap	12 00
201781	E3110	Flexible contact clutches for gripping to heavy conductors	10 00

IMPROVED FAULT FINDERS

201782	E3116	Fault finder and ohmmeter	85 00
201783	E3117	Sole leather carrying case and strap	12 00
210784	E3275	Low resistance fault finder	200 00
201785	E3118	Wireless or inductive fault finder	40 00

ACME PORTABLE TESTING SETS

Plug pattern set, for measurement of all resistances that can be measured by a Wheatstone Bridge.

201786	E3200	Portable testing set	100 00
201787	E3215	Sole leather carrying case and strap	10 00
201788	E3215A	Flexible contact clutches for gripping to heavy conductors	10 00
201789	E1020	Acme wheatstone bridges.	60 00

Bridge same as No. E3200 but without galvanometer battery and carrying case.

DIAL AND PLUG DECADE TESTING SETS

201790	E3100	Plug type	170 00
201791	E3105	Switch type	200 00
201792	E3115	Sole leather carrying case and strap	15 00
201793	E3120	Flexible contact clutches for gripping to heavy conductors	10 00

DIRECT READING OHMMETERS

201794	E3270A	Improved direct reading ohmmeter	85 00
201795	E3270B	Direct reading to ohmmeter	67 50
201796	E3273	Low resistance ohmmeter	200 00
201797	E3276	Ohmmeter for electric car equipment	100 00



## QUEEN INSTRUMENTS

## CENTRAL STATION POTENTIOMETERS OR PORTABLE STANDARDIZING SETS



No. E3045

The Potentiometer is the recognized primary standard for the precise measurement of D. C. voltage, current and power. The Potentiometer depends for its accuracy and permanency upon resistances and a standard Cadmium cell, both of which can be relied upon for their constancy.

A complete instrument for the calibration of direct current ammeters, voltmeters, millivoltmeters and milli-ammeters.

This instrument is a standard potentiometer with contained standard low resistance for current measurements up to 150 amperes and contained multipliers for voltage measurements up to 750 volts.

The range can be extended to 3000 amperes and 1500 volts by means of external shunts and multipliers.

A feature of the instrument is a rheostat that can be varied continuously in conjunction with a contained source of current for checking the milli-volt scale of ammeters, independent of their shunts.

The galvanometer serves only to balance the measurement and does not enter in any way as a deflecting instrument. It is removable as a unit for replacement if necessary. A standard cadmium cell and regulating rheostat are included so as to standardize the potentiometer in terms of the standard cell and by means of a switch the potentiometer can be instantly checked. A rheostat and battery are also provided for use in calibrating milli-volt-meters and ammeters having milli-volt scales reading in amperes with shunts. The rheostat furnishes a continuously adjustable control so as to obtain a reading at any point on the scale. The design of this rheostat is the result of the makers' experience in their own Laboratory, in calibrating milli-voltmeters.

Trade No.	Mfrs. No.	Description	Price Each
201808	E3045	Queen-Gray Central station potentiometer.	\$500.00
Prices upon request for external multiplier and shunts to extend measurements higher than 750 volts and 150 amperes.			

Potentiometers with accessories for potential and current measurements in Standardizing Laboratories and for potential measurements in Physical, Biological, Chemical, Physiological, and Pyrometrical Laboratories are described in Bulletin E-2, a copy of which will be sent upon request.



Trade No.	Mfrs. No.
201819	E9009
201820	E9009
201821	E9025



A direct reading between centers in range 800 c.p. 13	
Trade No.	Mfrs. No.
201822	E4020
201823	E4021
201824	E4026



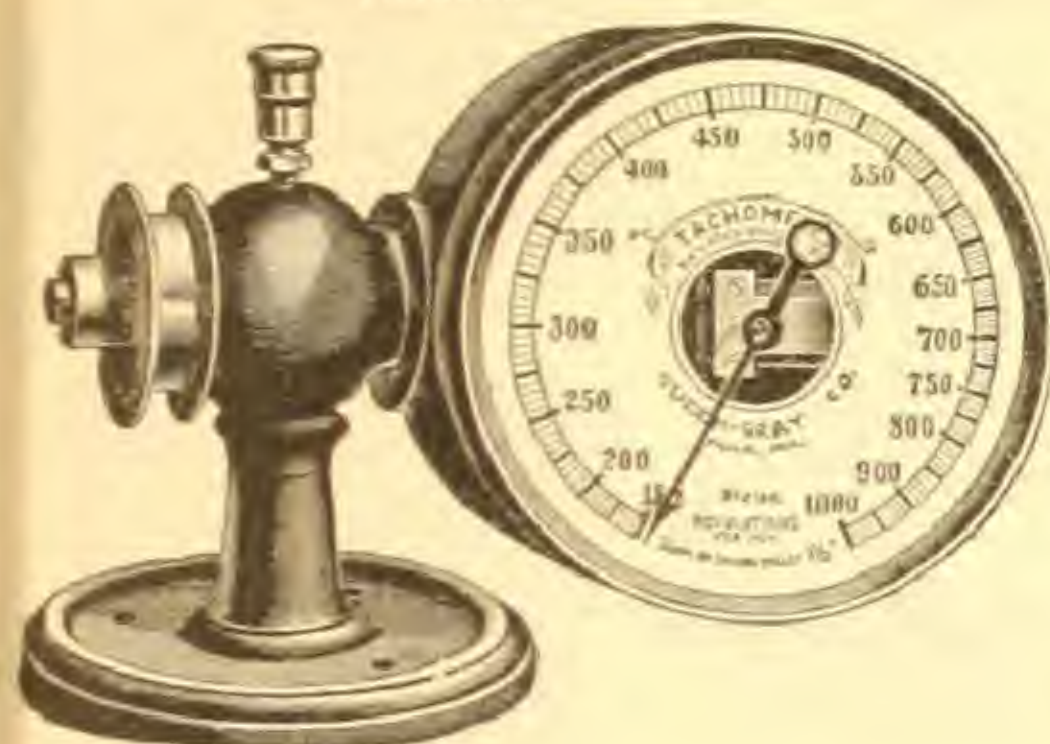
## QUEEN INSTRUMENTS



Vibration



Portable



Stationary

### VIBRATION TACHOMETERS

Tachometers of this type indicate r.p.m. through the mechanical excitation of steel reeds. There are no mechanical or electrical connections. Mounted on the machine and the reed corresponding to the speed of the machine will be set in vibration.

Prices and ranges quoted upon application.

### STANDARD TACHOMETERS

Three shafts are geared to the rotating parts inside of the case, each one of them having a separate scale on the dial so that the indications are direct reading throughout. A detachable point, to fit any of the spindles, is supplied. The scales of the No. E9009 are graduated as follows: 40 to 200, 120 to

600 and 600 to 3000. Thus it is possible to measure directly both high and low speeds with the same instrument. The No. E9009A scales are graduated as follows: 75 to 500, 150 to 1000 and 50 to 5000. The case is aluminum. A substantial carrying case is supplied.

Trade No.	Mfrs. No.	Description	Range	Price Each
01819	E9009	Standard portable tachometer.	40 to 3000	\$75.00
01820	E9009A	Standard portable tachometer.	75 to 5000	75.00
01821	E9025	Standard stationary tachometer.		125.00

### PHOTOMETERS



A direct reading instrument for measuring the candle power of incandescent lamps. Distance between centers is 100 inches and when using a 16-c.p. standard lamp the scale has a maximum range 800 c.p. Using a higher candle power standard the scale range can be extended

Trade No.	Mfrs. No.	Description	Price Each
01822	E4020	Standard with hunsen screen and horizontal rotator, one 16-c.p. standard lamp included.	\$200.00
01823	E4021	Same as above but with compound rotator in place of horizontal	325.00
01824	E4026	Same as No. E4020 but with Lummer Brodhun screen.	275.00



## MATTHEWS TESTING INSTRUMENTS

## MATTHEWS WOODPECKER TELEFAULTS



For use on telephone, telegraph, signal or power cable. A simple self-contained instrument that will exactly locate water in cables, shorts of all kinds in cables, crosses, grounds, split pairs in fact, everything except "opens." It only uses one dry cell battery, maximum voltage under 5 volts. The tone is like a woodpecker on a pole and does not "noise" up other working pairs, because of the inductive field created.

Can also be used as a tone test set, as a howler to make subscribers hang up receivers; for locating the path of concealed wires, conduits or pipes either in walls, ceilings or floors.

The Type L Matthews Woodpecker Telefault is held in a neat, strong case, furnished with a carrying strap and water-proof cover. The vibrator, battery, head phone and exploring coil are all contained in this box.

Trade No.	Description	Shipping Wt., Lbs.	Net Price Each
67479	Type L Telefault complete .....	8	\$66.00
67480	Extra exploring coils .....	2	15.00
67481	Extra receivers .....	1	4.00

No batteries are furnished.



## PORTABLE TESTING SETS



No. 5300



No. 5410



No. 5365



No. 5420

### No. 5300 TYPE S PORTABLE TESTING SETS

All switch contacts are enclosed and thus protected from dust and dirt. The galvanometer which is mounted in the instrument is quite rugged and is easily removed should it ever need repairing. By means of two small double throw switches the internal connections are quickly changed for the various tests for which the set is intended. The contained battery is of the commercial flash light type, and thus renewals are easily obtainable. A switch is provided on the instrument in order that an external battery may be used if desired.

This instrument may be used for making the following measurements:

Resistances, fault location, (Murray Loop or Varley Loop).

Location of opens, insulation resistances up to a few megohms.

The set measures, when closed  $7\frac{3}{8}$  inches x  $8\frac{3}{4}$  x  $4\frac{1}{2}$  inches.

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
116422	5300	Type S portable testing set	8	\$90.00
116423	5301	Leather carrying case for above		10.50
116424	5308	Extra battery		1.00

### No. 5410 TYPE T PORTABLE TESTING SETS

No. 5410 testing set is very compact yet there is plenty of room for manipulating the dials, switches and binding posts.

Fault location by Murray and Varley loop methods. A single three-way switch of the type used on telephone switchboards enables the operator with a single motion to make immediate connections for resistance measurements, for Murray loop test or for Varley loop tests. Insulation resistance up to several megohms.

172194	5410	Type T Portable Testing Set	125.00
116423	5301	Leather carrying case for above	On application.
116424	5308	Extra battery	.75

### No. 5365 BRIDGES

#### For Locating Faults in Power Circuits

In locating faults in power cable, unless specially designed apparatus is provided for the purpose, it will be almost impossible to get satisfactory results. The resistance of the cable being so low, avoidance of error due to contact and lead resistances must be carefully provided for. A galvanometer is provided, as are also the necessary leads for connecting to the cable under test. Locations are made by the Murray loop method.

172195	5365	Bridge	On application
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### No. 5420 FAULT FINDERS

This is a simple and reliable instrument for the location of faults, crosses and ground on telegraph and telephone lines, and for the measurement of conductor and installation resistance.

The fault finder may be used for the following measurements:

Resistance measurements between 5 ohms and 4000 ohms to a moderate accuracy. Fault location, (Murray Loop or Varley Loop). Location of opens, insulation resistance.

Many telephone companies hesitate to adopt the bridge method of cable testing because of the more or less complicated appearance of the ordinary portable test set. To such companies the Fault Finder is strongly recommended because of its simplicity.

116431	5420	Fault Finder	85.00
116432	5421	Leather carrying case for above	10.50
172193	5428	Battery of 6 cells mounted in box ready for mounting in set	9.00



## ANCHORS AND DIGGING TOOLS

### NEVER-CREEP ANCHORS

Never-Creep Anchors beat the deadman. They are more easily installed and hold more. An ordinary 8-inch auger is all that is required to install all sizes up to and including the 36-inch. Made to meet every anchoring requirement. Holding power does not depend directly or indirectly upon the resistance of the filled-in earth. They cannot creep nor skid because the anchor plate pulls entirely against the solid, undisturbed earth. The new thimbleeye rod is furnished without additional cost. The thimbleeye is so shaped that it holds the cable in a true cylindrical form thus preventing the flattening of the cable which shifts the greater strain upon a portion of the wires, sooner or later resulting in injury.

Trade No.	Mfrs. No.	Size of Plate Inches	Holding Surface Sq. In.	Size of Rod Inches	Wt. Lbs.	Price, Each Anchor Complete
97327	510 $\frac{1}{2}$	5 $\frac{1}{2}$ x10	55	1 $\frac{1}{2}$ x5	7	\$1.45
97328	510 $\frac{1}{2}$	5 $\frac{1}{2}$ x10	55	1 $\frac{1}{2}$ x6	8	1.55
97329	615 $\frac{1}{2}$	6 $\frac{1}{2}$ x15	97	1 $\frac{1}{2}$ x5	10	2.05
97330	615 $\frac{1}{2}$	6 $\frac{1}{2}$ x15	97	1 $\frac{1}{2}$ x6	11	2.15
97331	615 $\frac{3}{8}$	6 $\frac{1}{2}$ x15	97	5 $\frac{5}{8}$ x6	13 $\frac{1}{2}$	2.45
97333	620 $\frac{5}{8}$	6 $\frac{1}{2}$ x20	130	5 $\frac{5}{8}$ x6	16	3.05
97334	620 $\frac{5}{8}$	6 $\frac{1}{2}$ x20	130	5 $\frac{5}{8}$ x7	17	3.20
97336	820 $\frac{5}{8}$	8 $\frac{1}{2}$ x20	180	5 $\frac{5}{8}$ x6	20	3.45
97337	820 $\frac{5}{8}$	8 $\frac{1}{2}$ x20	180	5 $\frac{5}{8}$ x7	21	3.60
97339	820 $\frac{3}{4}$	8 $\frac{1}{2}$ x20	180	3 $\frac{3}{4}$ x6	23	3.90
97340	820 $\frac{3}{4}$	8 $\frac{1}{2}$ x20	180	3 $\frac{3}{4}$ x7	24	4.15
97345	825 $\frac{3}{4}$	8 $\frac{1}{2}$ x25	212	3 $\frac{3}{4}$ x6	25	5.10
97346	825 $\frac{3}{4}$	8 $\frac{1}{2}$ x25	212	3 $\frac{3}{4}$ x7	27	5.35
97347	825 $\frac{3}{4}$	8 $\frac{1}{2}$ x25	212	3 $\frac{3}{4}$ x8	29	5.55
97348	830 $\frac{3}{4}$	8 $\frac{1}{2}$ x30	255	3 $\frac{3}{4}$ x6	30	5.70
97349	830 $\frac{3}{4}$	8 $\frac{1}{2}$ x30	255	3 $\frac{3}{4}$ x7	32	5.95
97350	830 $\frac{3}{4}$	8 $\frac{1}{2}$ x30	255	3 $\frac{3}{4}$ x8	34	6.15
97351	835 $\frac{3}{4}$	8 $\frac{1}{2}$ x35	297	3 $\frac{3}{4}$ x6	35	6.90
97352	835 $\frac{3}{4}$	8 $\frac{1}{2}$ x35	297	3 $\frac{3}{4}$ x7	37	7.15
97353	835 $\frac{3}{4}$	8 $\frac{1}{2}$ x35	297	3 $\frac{3}{4}$ x8	39	7.35
97366	835-1	8 x35	1	1 x7	44	9.00
97367	835-1	8 x35	1	1 x8	47	9.40
97357	1040-1	11 x40	440	1 x7	62	11.10
97358	1040-1	11 x40	440	1 x8	64	11.50

### NEVER-CREEP INSTALLING BARS

The installing bar is a turned maple handle 10 feet long with a galvanized Never-Creep holder mounted on one end and a malleable tamp head on the other.

Trade No.	Description	Price Each
97360	Never-Creep installing bar . . . . .	\$2.60

### WOOD INSERT CAST MAULS

Has two wooden faces and two iron faces. In driving the rods it is very necessary to use a sledge or maul that is heavier than the rod, otherwise the blow will not exert much driving force.

Trade No.	Description	Price Each
97361	4-lb. maul, for $\frac{1}{2}$ , $\frac{5}{8}$ and $\frac{3}{4}$ -in. rods . . .	\$2.25
97362	18-lb. maul for 1-in. rod . . . . .	2.60
97363	Pair extra wooden inserts, boiled and turned . . . . .	.40

### CHANCE HEAVY TELEGRAPH AUGERS

97365	Complete as shown . . . . .	9.50
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Anchor and  
Thimbleeye Rod



Never-Creep Installing Bar



Never-Creep Maul



Chance Telegraph Auger



## SANGAMO WATTHOUR METERS

TYPE H, SINGLE-PHASE AND POLYPHASE



Single-phase

Single-phase  
with Cover Removed

Polyphase

Polyphase  
with Cover Removed

The Type H single-phase meter embodies the simple field arrangement characteristic of the well-known Gutmann meters manufactured by the Sangamo Electric Co. 21 years ago, but with the additional improvements suggested by 22 year's broad experience in the meter art, particularly in the manufacture of mercury motor meters, requiring the highest degree of mechanical and electrical skill.

Mechanically and electrically, Type H meters, both single-phase and polyphase, with light moving elements, low frictional values and high ratio of torque to friction, more nearly meet the requirements of perfect A. C. integrating meters than any other design which has been developed. The single-phase meter is the smallest and most compact successful induction meter which has been brought out, the meter for 5 to 15 amperes, with metal case, weighing only 9.5 pounds; and for 25 to 75 amperes, having larger connection box, the complete meter with metal case weighs 10 pounds. The polyphase meter is the most compact and conveniently arranged polyphase meter which has been put on the market, weighing complete with metal case, in capacities 5 to 100 amperes, 18 pounds.

The shunt loss in 110-volt, 60-cycle, single-phase meter is 1.1 watts, and the torque at full load is 48 millimeter-grams. The moving element in the single-phase meter weighs 15.0 grams, giving a very high ratio of torque to weight of moving element.

## Guarantee

We will make good any defects in workmanship or material which may develop within two years from date of shipment.

Complete descriptive bulletins furnished on request.

Prices on 55  
60-volt met  
educt \$5.00 from  
Above prices  
and \$10.00 list to  
Three-wire c  
Three-wire cu  
Three-wire v  
current transform  
Specify amp

TH  
110  
Trade  
No.  
5 154301  
30 154302  
15 154303  
25 154304  
50 154305  
75 154306  
100 154307  
150 154308  
200 154309  
300 154310  
400 154311  
500 154312  
Above prices  
are list prices  
All single-ph  
ampere current t  
with 30-vol  
volt-ampere cur



## SANGAMO WATTHOUR METERS

### TYPE H, SINGLE-PHASE, 50-133 CYCLES

110 Volts, Two-wire					
Trade No.	Amperes	Price Each	Trade No.	Amperes	Price Each
154241	5	\$17.00	154247	100	\$46.00
154242	10	20.00	154248	150	48.00
154243	15	22.50	154249	200	49.00
154244	25	27.00	154250	300	50.00
154245	50	37.00	154251	400	51.00
154246	75	43.00			
220 Volts, Two-wire					
154253	5	19.00	154259	100	49.00
154254	10	22.00	154260	150	50.00
154255	15	24.50	154261	200	51.00
154256	25	30.00	154262	300	52.00
154257	50	40.00	154263	400	53.00
154258	75	46.00			
110-220 Volts, Three-wire					
154265	5	19.00	154271	100	49.00
154266	10	22.00	154272	150	53.00
154267	15	24.50	154273	200	54.00
154268	25	30.00	154274	300	56.00
154269	50	40.00	154275	400	59.00
154270	75	46.00			
440 Volts, Two-wire					
154277	5	22.00	154283	100	52.00
154278	10	25.00	154284	150	53.00
154279	15	27.50	154285	200	54.00
154280	25	32.00	154286	300	55.00
154281	50	42.00	154287	400	56.00
154282	75	48.00			
1100 or 2200 Volts					
154289	5	88.00	154295	100	92.50
154290	10	89.50	154296	150	93.00
154291	15	90.50	154297	200	94.00
154292	25	91.00	154298	300	95.00
154293	50	91.50	154299	400	96.00
154294	75	92.00			

Prices on 550-volt meters same as 440 volts.

660-volt meters regularly furnished with current and potential transformers. For list prices, deduct \$5.00 from list prices of 1100 or 2200-volt meters of proper frequency.

Above prices on primary meters for 50-133 cycles only. For 25-30-cycle primary meters, add \$10.00 list to primary list prices given above.

Three-wire meters from 150 amperes to 400 amperes, inclusive, are regularly furnished with one three-wire current transformer.

Three-wire meters capacity 500 amperes and above regularly furnished with two 2-wire current transformers.

Specify amperes, voltage, cycles and whether metal or glass cover desired, when ordering.

### TYPE H, POLYPHASE, 50-133 CYCLES

#### THREE-PHASE, THREE-WIRE - TWO-PHASE, THREE OR FOUR-WIRE

110 Volts			220 Volts		440 Volts		1100 or 2200 Volts	
Amps.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
5	154301	\$53.00	154313	\$60.00	154325	\$73.00	154337	\$213.00
10	154302	58.00	154314	65.00	154326	78.00	154338	213.00
15	154303	60.00	154315	67.00	154327	80.00	154339	213.00
25	154304	66.00	154316	73.00	154328	86.00	154340	217.00
50	154305	75.00	154317	82.00	154329	95.00	154341	225.00
75	154306	82.00	154318	89.00	154330	102.00	154342	229.00
100	154307	91.00	154319	98.00	154331	111.00	154343	231.00
150	154308	143.00	154320	150.00	154332	163.00	154344	233.00
200	154309	147.00	154321	154.00	154333	167.00	154345	237.00
300	154310	151.00	154322	158.00	154334	171.00	154346	241.00
400	154311	155.00	154323	162.00	154335	175.00	154347	245.00
500	154312	161.00	154324	168.00	154336	181.00	154348	251.00

Above prices on primary meters for 50-133 cycles only. For 25-30 cycles add \$20.00 to primary list prices given above. Prices on meters for 3-phase 4-wire circuits quoted upon request.

All single-phase meters requiring current transformers will be furnished complete with 15-volt-ampere current transformers. All polyphase meters requiring current transformers will be furnished with 30-volt-ampere current transformers. Single-phase meters can be furnished with 30-volt-ampere current transformers at an extra charge.



SANGAMO DIRECT CURRENT WATTHOUR METERS  
MERCURY FLOTATION, TYPE D-5Service Type Meter  
Two-wire

The Sangamo Mercury Motor Meters have now been on the market over 16 years and the results obtained with these meters in all classes of direct current service more than justify the confidence we have felt in the principle of operation used in them.

These meters are now built in both two-wire and three-wire types, for all capacities and voltages. Bulletin fully describing both types will be sent on request.

Service Type Meter  
Three-wire

100-125 Volts			Two-wire, D. C. 200-250 Volts			400-650 Volts			Three-wire, D. C. 150-220 Volts		
Amps	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.
10	38851	\$27.00	38872	\$32.00	38893	\$40.00	38929	\$50.00			
25	38920	31.00	38923	36.00	38926	44.00	38930	56.00			
50	38921	40.00	38924	45.00	38927	53.00	95160	75.00			
75	38922	48.00	38925	53.00	38928	61.00	95161	90.00			
100	38857	60.00	38878	65.00	38899	73.00	95162	115.00			
150	38858	65.00	38879	70.00	38900	78.00	95163	125.00			
200	38859	70.00	38880	75.00	38901	83.00	95164	135.00			
300	38860	80.00	38881	85.00	38902	93.00	95165	155.00			
400	38861	85.00	38882	90.00	38903	98.00	95166	165.00			
500	38862	90.00	38883	95.00	38904	103.00	95167	175.00			
600	38863	95.00	38884	100.00	38905	108.00	95168	185.00			
800	38864	100.00	38885	105.00	38906	113.00	95169	195.00			
1000	38865	105.00	38886	110.00	38907	118.00	95170	205.00			
1200	38866	110.00	38887	115.00	38908	123.00	95171	215.00			
1500	38867	115.00	38888	120.00	38909	128.00	95172	225.00			
2000	38868	125.00	38889	130.00	38910	138.00	95173	245.00			
3000	38869	145.00	38890	150.00	38911	158.00	95174	285.00			
4000	38870	165.00	38891	170.00	38912	178.00	95175	325.00			
5000	38871	195.00	38892	200.00	38913	208.00	95176	385.00			

For 220-440 or 250-500 volts, three-wire meters, any capacity, add to list \$8.00. One hundred amperes and over externally shunted.

Pocket type shunts regularly supplied with meters of 100, 150 and 200 amperes capacity.

Box type shunts will be furnished in these sizes, without extra charge, and regularly in larger capacities up to and including 400 amperes. Open type shunts will be supplied in capacities 100 to 400 amperes, if desired, and regularly in all capacities 500 amperes and larger, complete with 5 foot cables. If longer cables are required on open or box type shunts add following net prices for each shunt:

Total Distance, Shunt to Meter			Total Distance, Shunt to Meter		
Trade No.	No. of Feet	Add Each	Trade No.	No. of Feet	Add Each
38914	8	\$1.50	38917	15	\$ 5.00
38915	10	2.50	38918	20	10.00
38916	12	3.50			

Above prices include current shunts and resistance boxes for types requiring same.

For two-wire meters, pressed steel case with full glass front is standard, and will be furnished, unless otherwise ordered. Pressed glass case furnished without extra charge.

Three-wire meters supplied with pressed aluminum case only.

## Directions for Ordering

Meters for circuits having normal voltage, 500 to 575 volts, are marked 550 volts and will be calibrated at that voltage unless otherwise specified. Similarly, meters for circuits of normal voltage, 600 to 675 volts, are marked and calibrated at 660 volts. If it is desired to have meters marked and calibrated at any particular voltage within these limits, state accordingly when placing orders, otherwise meters will be furnished for one of the standard voltages above noted.

For meters 100 amperes or larger, requiring external shunts, specify type of shunt preferred as described above. Box type shunts will be furnished regularly with cables 2 feet 6 inches long and open type shunts with 5 foot cables. In ordering specify if longer cables are required.

In ordering specify amperes capacity and average normal voltage on which meters will be used.

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100 to 1	Trade No.
10	049387
25	95195
50	95196
75	95197
100	049373
150	049374
200	049375
300	049376
400	049377
500	049378
600	049379
800	049380
1000	049381
1200	049382
1500	049383
2000	049384
3000	049385
4000	049386
5000	049387

Prices on la  
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meters.

Sizes 100-a  
prices with 5-fo  
order to operate

No. of Feet
8
10
12
15
20



# SANGAMO WATTHOUR METERS

## SWITCHBOARD, TYPE D-5 METERS



Two-wire Switchboard Meter



Three-wire Switchboard Meter

Sangamo Round Type Switchboard Meters are built on the same mercury motor principle and are of the same general construction as the well-known service type, Sangamo Meters.

The Sangamo Switchboard Type Meters are fully described and illustrated in bulletin which we will be pleased to send upon request.

Amps.	Two-wire, D. C.						Three-wire, D. C.			
	100 to 125 Volts		200 to 250 Volts		400 to 650 Volts		110-220 Volts		250-500 Volts	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
10	049367	\$ 90.00	049394	\$100.00	049421	\$110.00	95204	\$120.00	95229	\$120.00
25	95195	97.50	95198	107.50	95201	117.50	95205	127.00	95230	127.00
50	95196	102.50	95199	112.50	95202	122.50	95206	135.00	95231	135.00
75	95197	105.00	95200	115.00	95203	125.00	95207	145.00	95232	145.00
100	049373	115.00	049400	125.00	049427	135.00	95208	160.00	95233	160.00
150	049374	120.00	049401	130.00	049428	140.00	95209	175.00	95234	175.00
200	049375	125.00	049402	135.00	049429	145.00	95210	190.00	95235	190.00
300	049376	135.00	049403	145.00	049430	155.00	95211	206.00	95236	206.00
400	049377	140.00	049404	150.00	049431	160.00	95212	213.00	95237	213.00
500	049378	145.00	049405	155.00	049432	165.00	95213	229.00	95238	229.00
600	049379	150.00	049406	160.00	049433	170.00	95214	236.00	95239	236.00
800	049380	155.00	049407	165.00	049434	175.00	95215	244.00	95240	244.00
1000	049381	160.00	049408	170.00	049435	180.00	95216	255.00	95241	255.00
1200	049382	165.00	049409	175.00	049436	185.00	95217	266.00	95242	266.00
1500	049383	170.00	049410	180.00	049437	190.00	95218	277.00	95243	277.00
2000	049384	180.00	049411	190.00	049438	200.00	95219	296.00	95244	296.00
3000	049385	200.00	049412	210.00	049439	220.00	95220	334.00	95245	334.00
4000	049386	220.00	049413	230.00	049440	240.00	95221	372.00	95246	372.00
5000	049387	250.00	049414	260.00	049441	270.00	95222	429.00	95247	429.00

Prices on larger sizes up to 60000 amperes, on application.

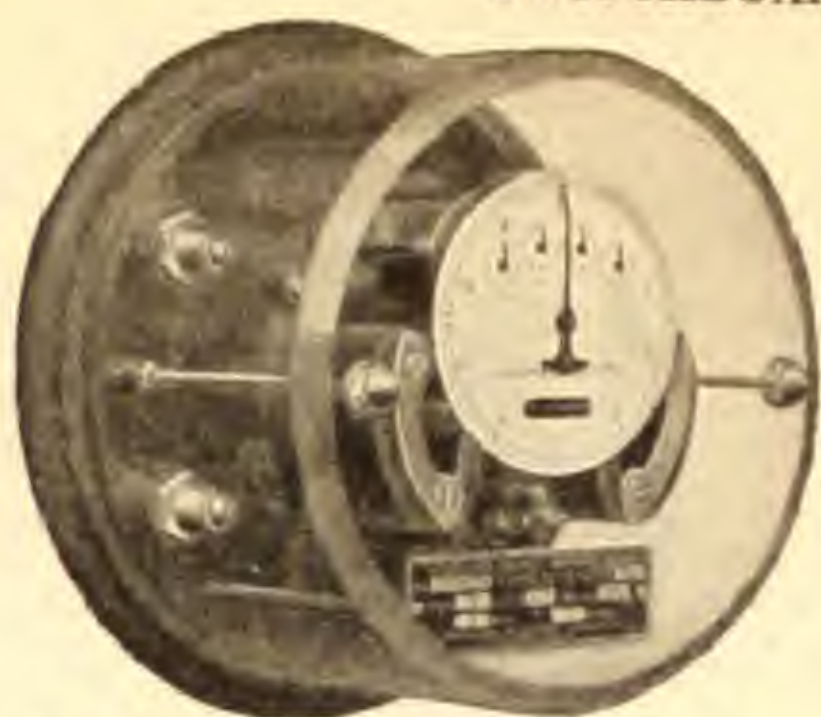
10-ampere meters have no shunts. 25 to 75-ampere meters have shunts directly across series studs of meters. No cables, unless specially ordered with special shunt and connecting cables, in which case, add \$5.00 to list prices on two-wire meters and \$10.00 for three-wire meters.

Sizes 100-ampere and over have separate shunts and are regularly furnished at above prices with 5-foot cables, complete with terminal lugs. When longer cables are required in order to operate the meter at a greater distance from shunt, add to net prices, as follows:

No. of Feet	Two-wire			Three-wire		
	Trade No.	Add Net		Trade No.	Add Net	
8	049448	\$ 1.50		95254	\$ 3.00	
10	049449	2.50		95255	5.00	
12	049450	3.50		95256	7.00	
15	049451	5.00		95257	10.00	
20	049452	10.00		95258	20.00	



SANGAMO WATTHOUR METERS  
SWITCHBOARD, TYPE H METERS



### Single-phase Switchboard Meter



### Polyphase Switchboard Meter

Single-phase Switchboard Meter      Polyphase Switchboard Meter

Sangamo Type H A.C. watt-hour meters, like practically all modern alternating current watt hour meters, operate on the split-phase induction motor principle but differ in the method of application of this principle and in the details of construction. The Sangamo A.C. Switchboard Meters are fully described and illustrated in Bulletins, which we will be pleased to send upon request.

## SINGLE-PHASE, TWO-WIRE

SINGLE-PHASE, TWO-WIRE												
110 Volts			220 Volts		440 Volts		1100-2200 Volts		3300 Volts		4400 Volts	
Amps.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
5	132618	\$60.00	132648	\$65.00	132678	\$70.00	132708	\$141.00	194545	\$151.00	194605	\$156.00
10	132619	62.00	132649	67.00	132679	72.00	132709	141.00	194546	151.00	194606	156.00
15	132620	66.00	132650	71.00	132680	76.00	132710	141.00	194547	151.00	194607	156.00
25	132621	67.50	132651	72.50	132681	77.50	132711	143.00	194548	153.00	194608	158.00
50	132622	74.50	132652	79.50	132682	84.50	132712	147.00	194549	157.00	194609	162.00
75	132623	79.00	132653	84.00	132683	89.00	132713	149.00	194550	159.00	194610	164.00
100	132624	105.00	132654	110.00	132684	115.00	132714	150.00	194551	160.00	194611	165.00
150	132625	106.00	132655	111.00	132685	116.00	132715	151.00	194552	161.00	194612	166.00
200	132626	108.00	132656	113.00	132686	118.00	132716	153.00	194553	163.00	194613	168.00
300	132627	110.00	132657	115.00	132687	120.00	132717	155.00	194554	165.00	194614	170.00
400	132628	112.00	132658	117.00	132688	122.00	132718	157.00	194555	167.00	194615	172.00
500	132629	115.00	132659	120.00	132689	125.00	132719	160.00	194556	170.00	194616	175.00
600	132630	120.00	132660	125.00	132690	130.00	132720	165.00	194557	175.00	194617	180.00
800	132631	122.00	132661	127.00	132691	132.00	132721	167.00	194558	177.00	194618	182.00
1000	132632	127.00	132662	132.00	132692	137.00	132722	172.00	194559	182.00	194619	187.00
Prices on 550-volt meters same as 440-volt meters.												

Prices on 550-volt meters same as 440 volts above. Above prices include 30 voltampere current transformers in sizes requiring transformers. Three-wire meters, 5 to 400 amperes inclusive, same prices as 220 volt meters above. For larger capacities requiring transformers, prices quoted upon request.

To obtain cost of current transformer alone, deduct price of 5-ampere meter from list on any desired capacity, 100 amperes and above.

For frequencies 25-40 cycles, add \$10.00 to list prices for 1100 to 4400 volts, single-phase

**POLYPHASE—3-WIRE, 3-PHASE AND 3 OR 4-WIRE, 2-PHASE**

POLYPHASE—3-WIRE, 3-PHASE AND 3 OR 4-WIRE, 2-PHASE												
5	132633	90.00	132663	100.00	132693	110.00	132723	250.00	194575	270.00	194620	280.00
10	132634	93.00	132664	103.00	132694	113.00	132724	250.00	194576	270.00	194621	280.00
15	132635	98.00	132665	108.00	132695	118.00	132725	250.00	194577	270.00	194622	280.00
25	132636	102.00	132666	112.00	132696	122.00	132726	254.00	194578	274.00	194623	284.00
50	132637	111.00	132667	121.00	132697	131.00	132727	262.00	194579	282.00	194624	292.00
75	132638	115.00	132668	125.00	132698	135.00	132728	266.00	132580	286.00	194625	296.00
100	132639	178.00	132669	188.00	132699	198.00	132729	268.00	194581	288.00	194626	298.00
150	132640	180.00	132670	190.00	132700	200.00	132730	270.00	194582	290.00	194627	300.00
200	132641	184.00	132671	194.00	132701	204.00	132731	274.00	194583	294.00	194628	304.00
300	132642	188.00	132672	198.00	132702	208.00	132732	278.00	194584	298.00	194629	308.00
400	132643	192.00	132673	202.00	132703	212.00	132733	282.00	194585	302.00	194630	312.00
500	132644	198.00	132674	208.00	132704	218.00	132734	288.00	194586	308.00	194631	318.00
600	132645	208.00	132675	218.00	132705	228.00	132735	298.00	194587	318.00	194632	328.00
800	132646	212.00	132676	222.00	132706	232.00	132736	302.00	194588	322.00	194633	332.00
1000	132647	222.00	132677	232.00	132707	242.00	132737	312.00	194589	332.00	194634	342.00

Prices on 550-volt meters same as 440 volts above. Above prices include two 30 voltampere current transformers in sizes requiring transformers. Prices on 3-phase, 4-wire meters quoted upon request.

For frequencies of 25-40 cycles, add \$20.00 to above list prices for 1100 to 4400 volts.

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In the following meters now on the market, any make will give the same results obtained. For instance Type 100 meter under test or if preferred, any other, revolutionary in design, from the table of the disk, then 110 volt, 60 cy-

Sangamo  
Type H  
40 to 140  
Cycles

$\lambda$	Disk Rev.	
750	10	
750	16	
750	14	4
750	12	

All Type "M" cycle meters

SANGA

Waf

TYPE D-

Cap. Ang.	110V.
5	2400
10	2400
15	
25	6000
50	12000
75	18000
100	24000
150	36000
200	48000

\*Same table  
†Constant I<sub>0</sub>  
for 220-440 volt  
cycle meters in



## DIRECTIONS FOR TESTING WATTHOUR METERS

There are two methods of testing watthour meters; first, by indicating instruments and stop watch; second, by means of a rotating standard watthour meter. The former method is excellent for a thoroughly equipped laboratory where the indicating instruments can be kept carefully checked, where the load can be held uniform, and where thoroughly experienced men are available. This method, on the other hand, is not well suited to the requirements of testing on consumers' premises nor to the usual conditions in small central stations. For such conditions a rotating standard offers a simple and accurate method of testing consumers' meters. Briefly, the method of testing by rotating standard consists in comparing revolutions of the meter under test with revolutions of the standard. By comparison of the revolutions direct, or with a proper ratio between the standard and the meter under test, the accuracy of the meter can be quickly and readily ascertained. In using the rotating standard it is not necessary to hold the load constant or to use a stop watch, as the variation in load on the meter under test is exactly the same as on the standard, the two meters being in series.

There are many special refinements in testing employed by different companies, such as the method of obtaining inductive load, of controlling the load over a large range and in testing large numbers of meters in groups, but these are not important to the average central station.

### TESTING WITH ROTATING STANDARDS

In the following table are given comparative revolutions for the four leading makes of standard meters now used in this country. From this table the proper number of revolutions for meter of any make when tested with rotating standard or regular meter of another make can readily be obtained. For example, when checking a Type "H" Sangamo 60 cycle meter with a Westinghouse Type C meter or Westinghouse rotating standard, take 10 revolutions of the Sangamo meter under test, and if it is correct, the Westinghouse meter should then show 6.25 revolutions, or if preferred, taking 16 revolutions of the Sangamo, the Westinghouse should make 10. Similarly, revolutions for checking the Sangamo meter with any other type can be readily obtained from the table. The value K as given in the table for each meter is watt seconds per revolution of the disk; that is, watthours per revolution multiplied by 3600. The table is given for 5 ampere, 110 volt, 60 cycle, 2-wire meters. The constants or ratios for larger capacities are proportional.

Sangamo Type H 40 to 140 Cycles		Sangamo H-25 Cycles Westinghouse Types B, C and OA		General Electric Type 1		Fort Wayne, K-3, K-4 and G. E. Type 1-10	
K	Disk Rev.	K	Disk Rev.	K	Disk Rev.	K	Disk Rev.
750	10	1200	6.25	1080	6.95	900	8.33 $\frac{1}{3}$
750	16	1200	10	1080	11.11	900	13.33 $\frac{1}{3}$
750	14.4	1200	9	1080	10	900	12
750	12	1200	7.5	1080	8.33 $\frac{1}{3}$	900	10

All Type "H" meters, 40 to 133 cycles inclusive, have full load speed of 40 r. p. m. 25 to 30-cycle meters have full load speed of 25 r. p. m.

### SANGAMO ELECTRIC CO. WATT HOUR METER TESTING CONSTANTS

$$\text{Testing Constant} = \text{Watt Seconds per revolution.}$$

$$\text{Watts} = \frac{K \times R}{S} \quad S = \frac{K \times 3600}{W}$$

$W$  = Load in Watts  
 $K$  = Test Constant in Watt Seconds  
 $R$  = Revolutions of Disc  
 $S$  = Time in Seconds

Cap. Amp.	Type D-5 Direct Current* 2-Wire			Type H Single Phase† 40-133 Cycle 2-Wire			Type H-Polyphase 40-133 Cycle 2-Wire			550V.
	110V.	220V.	550V.	110V.	220V.	440V.	110V.	220V.	440V.	
5	2400	4800	12000	750	1500	3000	1500	3000	6000	7500
10	2400	4800	12000	1500	3000	6000	3000	6000	12000	15000
15				2250	4500	9000	4500	9000	18000	22500
25	6000	12000	30000	3750	7500	15000	7500	15000	30000	37500
50	12000	24000	60000	7500	15000	30000	15000	30000	60000	75000
75	18000	36000	90000	11250	22500	45000	22500	45000	90000	112500
100	24000	48000	120000	15000	30000	60000	30000	60000	120000	150000
150	36000	72000	180000	22500	45000	90000	45000	90000	180000	225000
200	48000	96000	240000	30000	60000	120000	60000	120000	240000	300000

\*Same table applies for 110-220 volt 3-wire as for 220-volt 2-wire.

†Constant for 110-220 volt 3-wire single-phase same as 220-volt 2-wire single-phase and constant for 220-440 volt 3-wire single-phase same as 440-volt 2-wire single-phase. Constant for 25 and 30 cycle meters maybe obtained by multiplying these values by 1.6.



## SANGAMO AMPERE-HOUR METERS

DIRECT CURRENT, TWO-WIRE CIRCUITS  
NOT EXCEEDING 500 VOLTS POTENTIAL



Locomotive Type



Switchboard Type



Auto Type



Type MS



Circuit Breaker

Ampere-hour meters are furnished in auto, service, distant dial and switchboard types and are made for use with storage batteries on electric vehicles, electric lighted railway cars, in central station service, telephone exchanges and for controlling electro-plating operations. These meters have no moving wires, coils, etc., to get out of order, the moving system being floated in an enclosed mercury chamber. The meter is intended to record the ampere hours of current flow in a direct current circuit (independent of voltage) and is therefore specially adapted for storage battery use. The operation of the meter for a given current flow is the same on a 6-volt or 500-volt circuit. In capacities above 100 amperes in the auto and service types the meter is operated with an external shunt. In smaller sizes, these being in general use, the shunt is self-contained. The position of the hand shows the condition of the battery in whose circuit the meter is connected. The meter has a resetting device for changing the position of the dial hand, which is operated by special key furnished with the meter. The above description shows readily the value of an ampere-hour meter, as the amount of current taken from or put into a battery may be determined at once.

## TYPE MS METERS

With and Without Current Indicators

DIMENSIONS.— $4\frac{7}{8}$  inches high, 5 inches wide,  $3\frac{1}{4}$  inches deep over base; studs 2 inches additional. Weight, 5 pounds.

MS meters, junior type of the D-5 ampere-hour meter, recommended for use where battery is not of large size and where expense is a consideration; suitable for farm lighting plants, electric pleasure vehicles, motor boats, etc.

## CIRCUIT BREAKERS

Sangamo Circuit Breakers, Type A for meter contact trip and Type B for low voltage release. Sangamo circuit breakers, when used in connection with D-5 and MS ampere-hour meters serve as a reliable means of opening the battery charging circuit.

## INSTRUCTIONS FOR ORDERING

When ordering ampere-hour meters, delays and mistakes will be avoided by stating fully the kind of meter wanted, as the large variety of types now offered makes it necessary to have information as to type, ampere capacity, ampere hours per revolution of hand, list letter, whether zero contact and resetting device required, etc.

Bulletin and Prices upon Application



## SANGAMO PORTABLE TEST METERS



Portable Test Meter

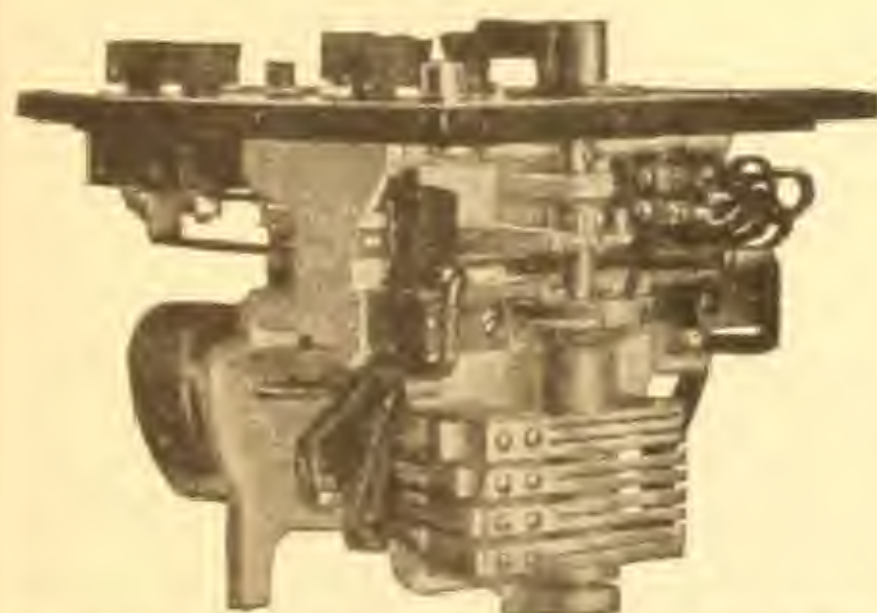
The Sangamo Portable Test Meter is intended for use as a standard in checking Sangamo and all other makes of service type alternating current meters. The advantages of using this type of meter for testing are readily understood when it is realized that no indicating instrument or stop watches are necessary and variations in the load and voltage can be disregarded.

The moving system embodies the same structural features as found in the regular Type H alternating current meters.

The Sangamo Portable Test Meter is designed to combine a number of capacities into one case, the changes in capacity being effected by the rotation of a drum controller of special construction. The range in capacity covers practically all the standard capacities of service type meters now in general use. The standard meter has a complete range of six coils; namely, 1, 5, 10, 25, 50 and 100 amperes. Contrary to the usual practice for the higher capacities, the current, instead of being carried by single leaf brushes having a single line contact, is carried by multiple leaf brushes bearing down with considerable pressure on two sides of a flat disc, which construction possesses the advantage of having much greater contact area and with the pressure available, the contact resistance and possibility of heating are reduced to a minimum. For the lower capacities the usual leaf brush is utilized. The entire drum mechanism is extremely simple and the arrangement of moving parts such that they may be easily inspected.

The standard meter is arranged for both 110 and 220 volt circuits; the change being made through a simple rotating switch. When additional voltage ranges are required, multipliers will be furnished for the particular voltage desired.

Fuses are provided for the 1 and 10 ampere coils.



Portable Test Meter Removed from Case

The register is of the three pointer type. The large circle represents a single revolution of the disc and is divided into hundredths. The two smaller pointers make one revolution for each 10 and 100 revolutions of the disc respectively. It is not necessary to take the differences between successive readings in order to obtain the number of revolutions for a given test, as a resetting device is provided consisting of a small button on the top of the case and so arranged that upon applying a slight pressure the hands are immediately returned to their zero position.

A simple sealing device is provided which will enable testing laboratories to seal the meter against any possible tampering by meter testers.

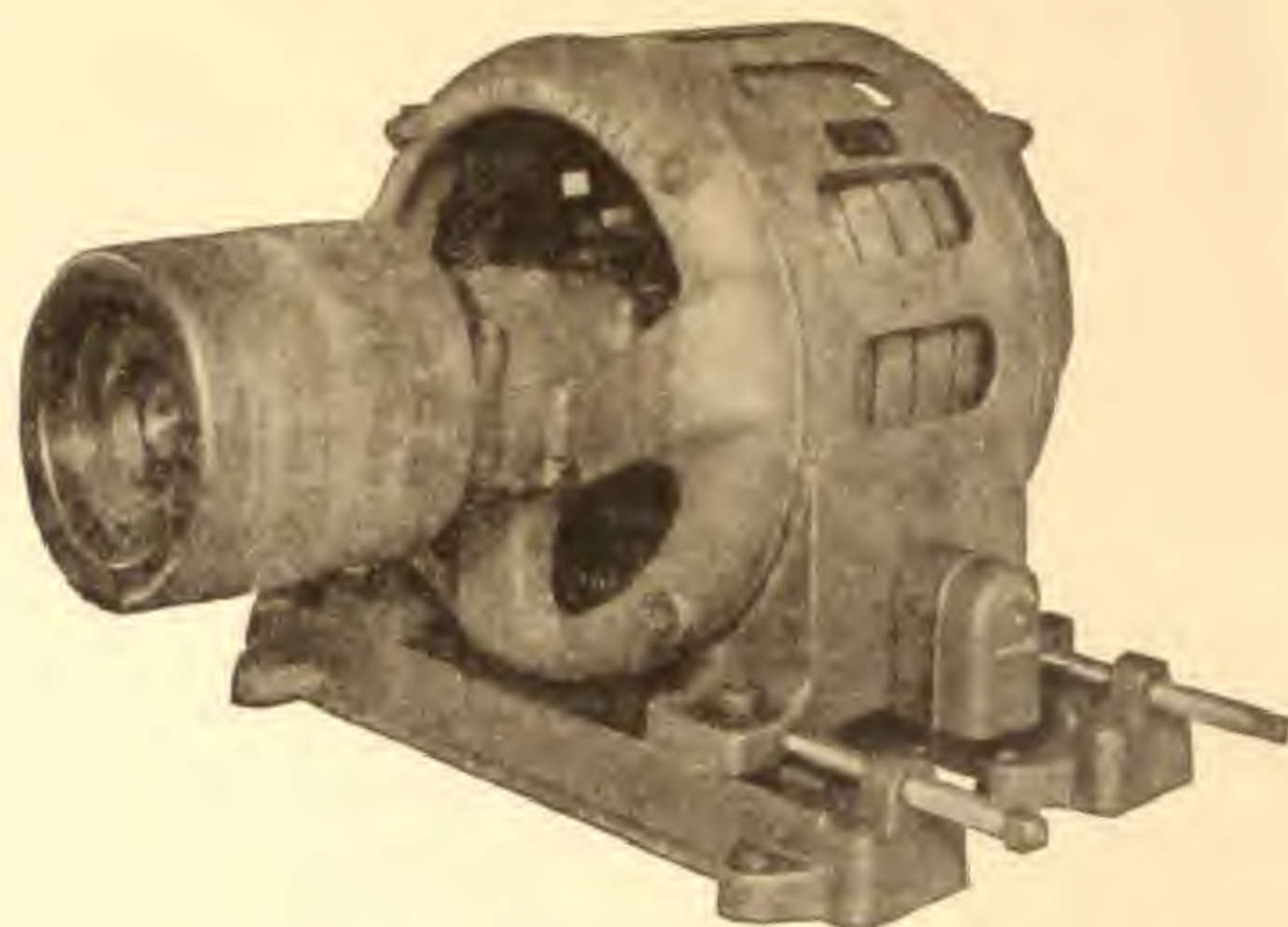
All moving parts operate in jewel bearings. The main spindle is held in position by a ring jewel where it passes up through the train plate, thus insuring against any possible wear. Friction has been reduced to a minimum in the entire moving system, insuring sustained accuracy and permanence of calibration under all conditions of service.



Multiplier

Prices Upon Application



CANADIAN CROCKER-WHEELER INDUCTION MOTORS  
SQUIRREL CAGE MOTORS—STANDARD FRAME

These motors have a well established reputation for their sturdy mechanical construction and modern electrical design and give reliable service in a wide range of applications. A list of the most popular standard ratings is given below.

Motors two and three-phase 220, 440 or 550 volts, sizes five horsepower and under equipped with pulleys and slide rails or slotted feet; sizes  $7\frac{1}{2}$  horsepower and larger equipped with pulleys, slide rails and starters.

## 60 Cycles

H. P.	Size R. P. M.	H. P.	Size R. P. M.	H. P.	Size R. P. M.	H. P.	Size R. P. M.
1	1800	3	1800	$7\frac{1}{2}$	1800	15	1800
1	1200	3	1200	$7\frac{1}{2}$	1200	15	1200
1	900	3	900	$7\frac{1}{2}$	900	15	900
2	1800	5	1800	10	1800	20	1800
2	1200	5	1200	10	1200	20	1200
2	900	5	900	10	900	20	900
25	1200	35	1200	50	1200	75	900
25	900	35	900	50	900	75	900
25	720	35	720	50	720	75	720
30	1200	40	1200	60	1200	100	600
30	900	40	900	60	900	100	900
30	720	40	720	60	720	100	720
125	900	150	720	175	720	200	600
125	720	150	600	175	600	200	720
125	600	150	514	175	514	200	600
						200	514

## 25 Cycles

1	1500	3	1500	$7\frac{1}{2}$	1500	15	1500
1	750	3	750	$7\frac{1}{2}$	750	15	750
2	1500	5	1500	10	1500	20	1500
2	750	5	750	10	750	20	750
25	750	30	750	.....	.....	...	...
25	500	30	500	.....	.....	...	...

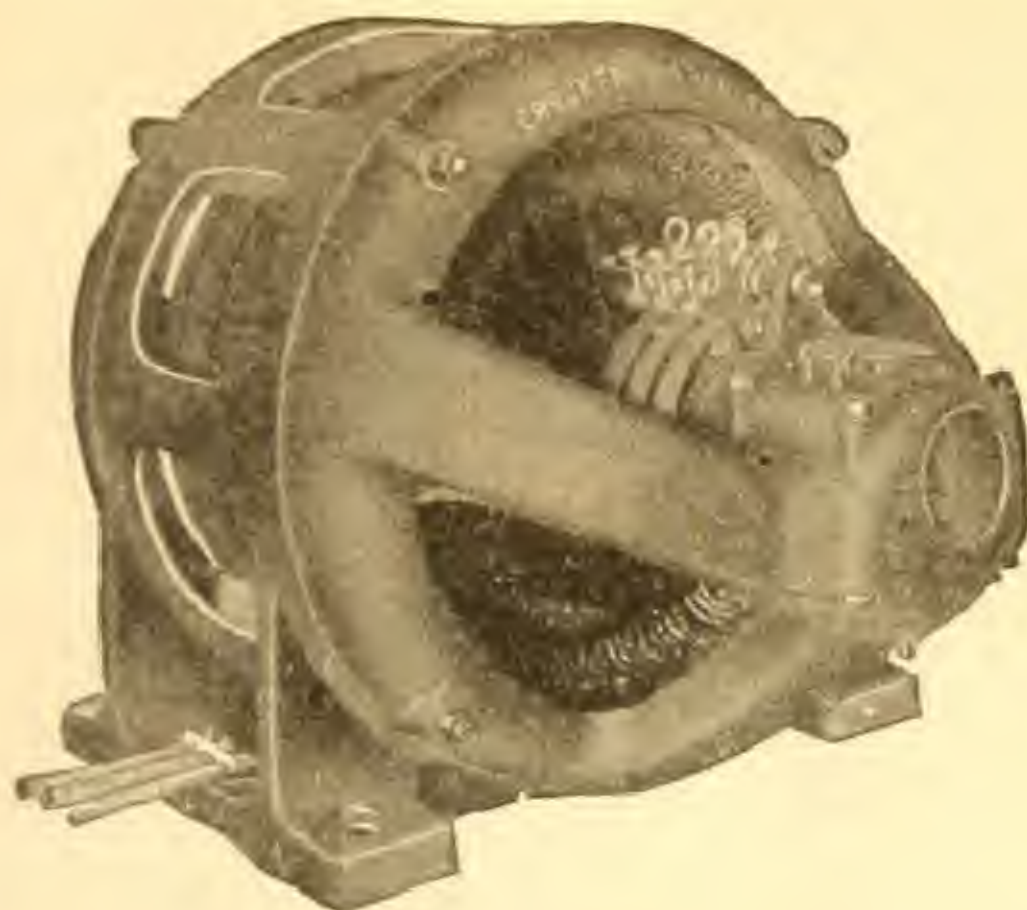
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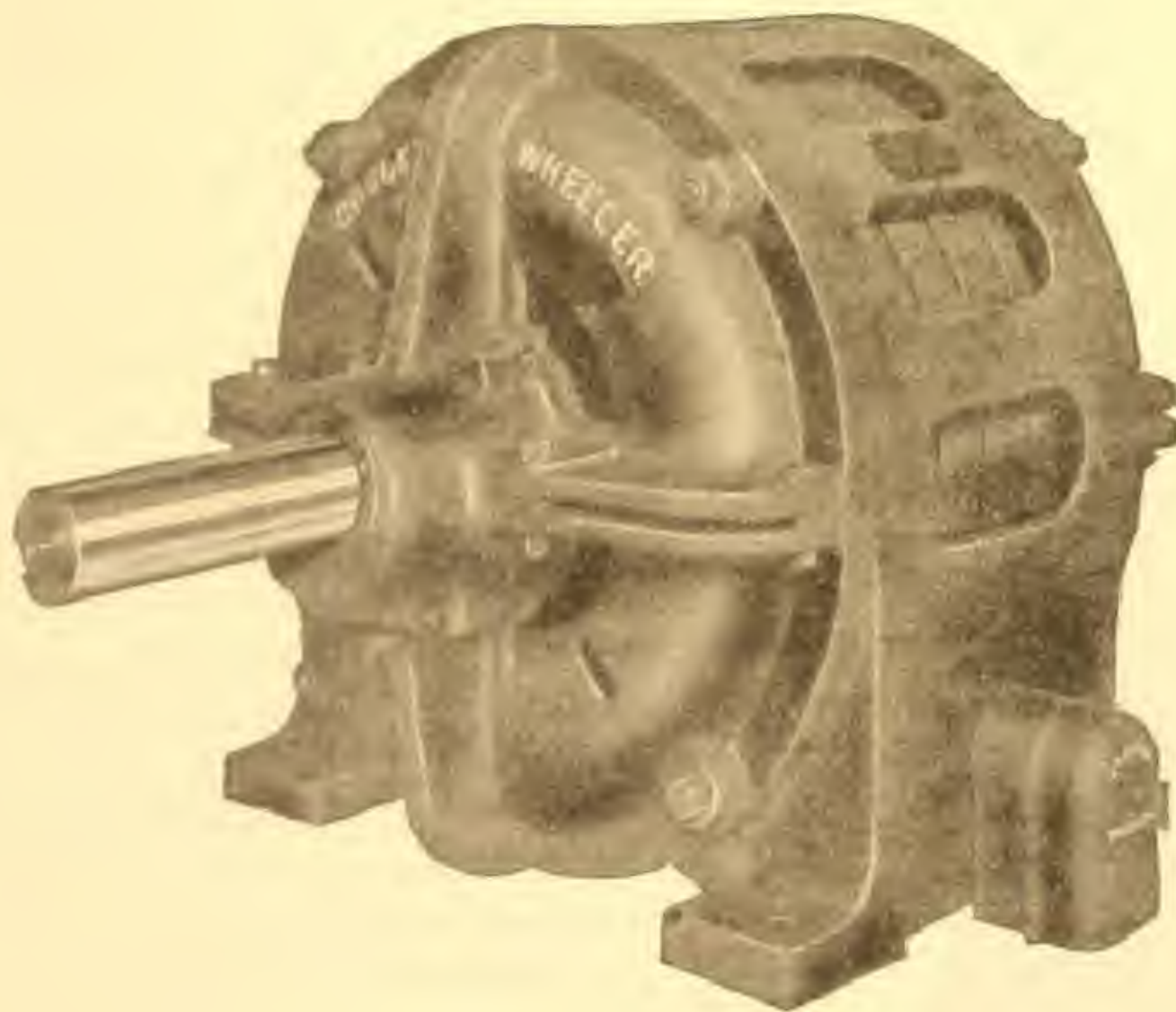
# CANADIAN CROCKER-WHEELER INDUCTION MOTORS

## WOUND ROTOR INDUCTION MOTORS



Ratings in most frequent demand are carried in stock at Branch Houses. Motors for direct connection and in additional ratings are obtainable. Wound rotor machines are advisable under certain operating conditions and can be furnished in any of the above ratings from three horsepower up and in additional ratings as required. Motors for 2200-volt service can be furnished in sizes 30 horsepower and larger.

## TYPE M. Q. MOTORS



The standard motor is of very sturdy construction to meet all ordinary operating conditions. For certain severe service the Type M. Q. or Mill Type frame is recommended. Quotations and descriptive literature can be obtained from nearest Branch House.



## MATTHEWS SCRULIX ANCHORS

Matthews Scrulix Anchors are screwed into solid ground. They have no moving parts to adjust or that might be carelessly buried unadjusted. Nothing to assemble. They are delivered ready to install. The Matthews Earth Auger is the latest improvement to Matthews Scrulix Anchors.

The use of No. 300 Matthews Auger in hard grounds such as Adobe, Hardpan, Gumbo, Sunbaked Clay, disintegrated rock easily prepares the way for the quick installation of the Nos. 612R and 758R Matthews Scrulix Anchors.

The No. 375 Matthews Auger should be used before attempting to screw down the Nos. 758R, 858R, 800, 1000 and 1200 Matthews Scrulix Anchors. It will pay to use it in all but very soft or sandy ground before installing any of these anchors.

## ANCHORS

## Round

Trade No.	Mfr. No.	Diam. of Anchor Inches	Size of Rod Inches	LENGTH OVER ALL		Wt., Lbs. per 100	PRICE, PER 100		
				FT.	IN.		Less than 12	12 to 50	Over 50
088384	612R	6	1½	6	...	750	\$370.00	\$350.00	\$330.00
78504	758R	7	5/8	6	...	1200	540.00	520.00	500.00
088383	858R	8	5/8	6	...	1500	740.00	720.00	700.00

## Square

042053	800	8	1½	6	...	3700	1650.00	1650.00	1650.00
042054	1000	10	1¼	6	...	5700	2100.00	2100.00	2100.00
042055	1200	12	1½	6	...	7900	2800.00	2800.00	2800.00

## ANCHOR WRENCHES

042056	567	...	...	5	4	2900	1000.00	1000.00	1000.00
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## AUGERS

78503	300	3	...	6	3	1900	1450.00	1450.00	1450.00
78505	375	3¾	...	6	3	2000	1500.00	1500.00	1500.00

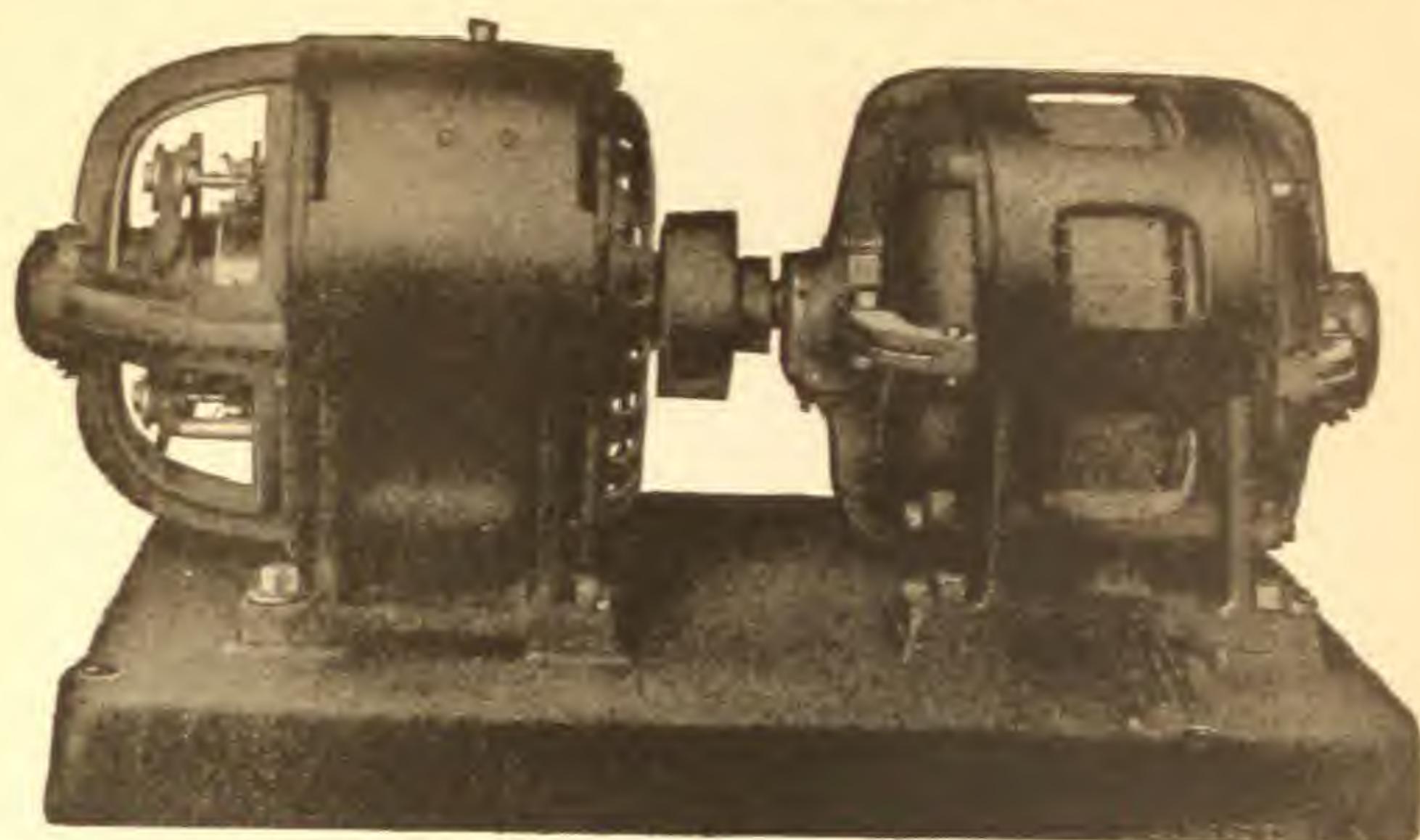
## PARTS

Trade No.	Mfr. No.	Description	LENGTH OVER ALL			PRICE, PER 100		
			FT.	IN.		Less than 12	12 to 50	Over 50
78506	301H	Heads for 3-in. auger	...	6½	...	\$850.00	\$850.00	\$850.00
78507	302B	Bodies for 3-in. auger	...	31	...	220.00	220.00	220.00
78508	303C	Auger blades for 3-in. auger	...	10	...	700.00	700.00	700.00
78509	376H	Heads for 3¾-in. auger	...	6½	...	900.00	900.00	900.00
78510	377B	Bodies for 3¾-in. auger	...	31	...	220.00	220.00	220.00
78511	378C	Auger blades for 3¾-in. auger	...	10	...	750.00	750.00	750.00
78512	3375	Blackburn telescopic handle	2	2	...	600.00	600.00	600.00

The Nos. 612R, 758R and 858R Matthews Scrulix Anchors will be furnished with galvanized rods. The Nos. 612R and 758R are packed in bundles of 4 each. All the rest are shipped singly. There has been no change in the wrench except to make it stronger. Nos. 800, 1000 and 1200 anchors are guaranteed to outlast galvanized steel round rods with a diameter of 1½, 1¼ or 1½ inches. The fact that the rods of these anchors are square gives them a greater cross section and makes it possible to use mild steel rods instead of high carbon steel rods. The square rods not only resist twisting strain better but if they do begin to twist, it can be seen whereas the round rods do not show it. They will not twist if the No. 375 Matthews Earth Auger is used first. Mild steel rods resist rust very much better than high carbon steel. A No. 567 wrench must be used with all anchors smaller than No. 800. No. wrench is needed for the Nos. 800, 1000 or 1200 anchors.



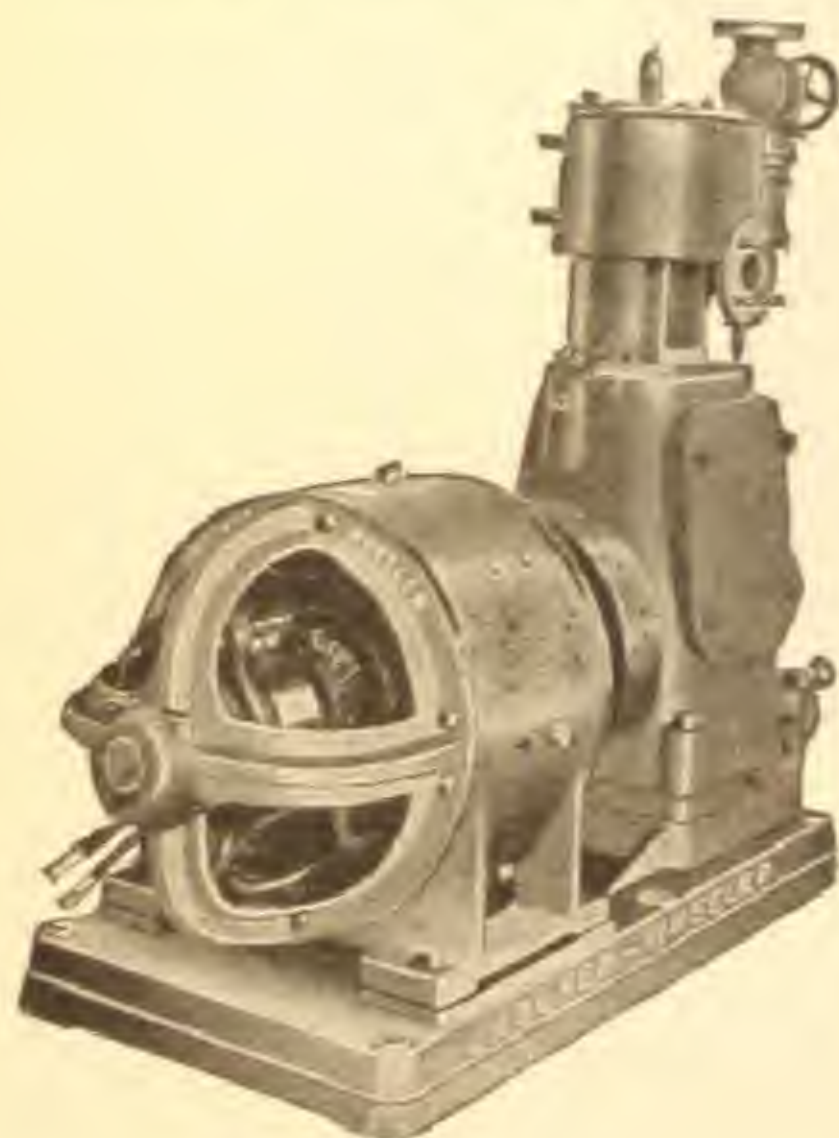


CANADIAN CROCKER-WHEELER MACHINERY  
STANDARD MOTOR GENERATOR SETS

The standard line of motor generator sets embodies D. C. generators of 125 or 250 volts or suitable speeds direct connected to standard squirrel cage induction motors either 60 or 25 cycles. A few of the most popular ratings are listed below.

H. P. Motor	D. C. Generator K. W.	R. P. M. 60 Cycles	R. P. M. 25 Cycles	H. P. Motor	D. C. Generator K. W.	R. P. M. 60 Cycles	R. P. M. 25 Cycles
7 1/2	4	720	750	45	30	1200	750
7 1/2	5	900	...	60	40	1200	1500
12 1/2	7 1/2	1200	...	75	50	1200	1500
15	10	720	750	90	60	900	750
25	15	1200	750	110	75	900	750
30	20	1200	1500	150	100	900	...
40	25	1200	1500	...	...	...	...

Many intermediate and larger ratings and a wide range of speeds have been developed and will be quoted to meet requirements.



## ENGINE GENERATOR SETS

A complete line of direct current motors and generators is available in an extensive range of ratings and will be quoted to meet requirements. These can be furnished for belt drive or direct connection. Generators for direct connection to steam engines, or complete engine-generator sets can be furnished in several ratings. A typical 10 K. W. engine generator set is illustrated.

The chief...  
and power...  
First...  
Second...  
Third...  
maintenance...  
Central...  
motor upon...  
should be a...  
Polyphase...  
25 to 35 per...  
polyphase...  
phase motor...  
a saving of...  
able station...  
The greater...  
particularly...  
motors distur...  
motor distur...  
polyphase sys...  
A Wagner...  
double-pole sw...  
from the motor...  
at the instant...  
The torque at...  
box, any value...  
depending on...  
If the power...  
and picks up...  
operator, result...  
closing or open...  
speed irrespecti...  
Wagner Sin...  
various sizes...  
mer High Frequ...



## WAGNER SINGLE-PHASE MOTORS



Type BA



Type BA  
Fractional Horse Power Size

The chief features of Wagner Single-Phase Motors which recommend them to users of electrical power are:

First. Ideal starting characteristics.

Second. Simplicity of control; minimum cost of attendance.

Third. Liberality in design and construction, giving reliability and minimum cost of maintenance.

Central stations frequently find themselves confronted with the necessity of either installing a motor upon the lighting circuit or losing a customer altogether; particularly so if such customer should be a considerable distance from the nearest power feeder.

Polyphase generation with single-phase distribution is now recognized as good practice. From 15 to 35 per cent can be saved on the transformer installation by using single-phase instead of polyphase, as it manifestly costs less to buy and erect the one transformer required for a single-phase motor than the two or three transformers required for polyphase motors. In addition there is a saving of from 15 to 35 per cent in transformer losses, with a corresponding increase in available station capacity. The investment in line construction is also considerably less.

The greatest difficulty in the use of motors upon lighting circuits is in the disturbance produced particularly at the moment of starting. For a given torque or starting effort, Wagner Single-Phase Motors disturb the one phase from which the entire power is taken, less than the usual polyphase motor disturbs every phase. Wagner Single-Phase Motors can be operated on one phase of a polyphase system without causing serious unbalancing at starting.

A Wagner Single-Phase Motor can be operated without any controlling device other than a double-pole switch (which may be located at any point in the line at a distance—several miles—from the motor). No starting box is necessary. Under these conditions the current and torque at the instant of starting will be approximately two and one half times the normal full load value. The torque at starting is approximately proportional to the starting current. Employing a starting box, any value of starting torque and current can be obtained up to two and one-half times normal, depending on the resistance.

If the power service should fail for any reason, the motor returns to the starting condition, and picks up its load when the power comes on again, without the assistance or attention of the operator; result, minimum cost of attendance. Further, it is impossible to injure the motor by closing or opening the line switch at any speed or cycle of its operation, from rest to full normal speed irrespective of the load conditions.

Wagner Single-Phase Motors are furnished for all frequencies from 25 to 140 cycles and in various sizes from  $\frac{1}{4}$  to 50 horse power capacity. Hundreds of central stations are using Wagner High Frequency Motors successfully.



## WAGNER SINGLE-PHASE MOTORS

## TYPE BA, 60 CYCLES

110/220 or 220/440 Volts, Interchangeable

Trade No.	Frame No.	H. P.	Full Load Speed R. P. M.	Approx. Wt., Lbs.		DIMENSIONS, INCHES STANDARD PULLEYS		
				Net	Shipping	Diam.	Face	Bore
100235	7W6BA	$\frac{1}{4}$	1725	51	68	$2\frac{1}{2}$	$1\frac{3}{4}$	$\frac{5}{8}$
100236	7X7BA	$\frac{1}{4}$	1140	55	72	$2\frac{1}{2}$	$1\frac{3}{4}$	$\frac{5}{8}$
100241	8W5BA	$\frac{1}{2}$	1725	82	102	3	3	$\frac{3}{4}$
100242	8Y7BA	$\frac{1}{2}$	1140	99	119	3	3	$\frac{3}{4}$
100244	8X6BA	$\frac{3}{4}$	1725	89	109	3	3	$\frac{3}{4}$
116324	8Z8BA	$\frac{3}{4}$	1140	105	126	3	3	$\frac{3}{4}$
109065	8Y7BA	1	1725	99	119	3	3	$\frac{3}{4}$
116328	11TBA	1	1140	213	260	4	4	$1\frac{1}{8}$
116329	8Z8BA	$1\frac{1}{2}$	1725	105	126	3	3	$\frac{3}{4}$
109066	11TBA	$1\frac{1}{2}$	1140	213	260	4	4	$1\frac{1}{8}$
100197	11TBA	2	1725	213	260	4	4	$1\frac{1}{8}$
100198	11VBA	2	1140	224	270	4	4	$1\frac{1}{8}$
100201	11TBA	3	1725	213	260	4	4	$1\frac{1}{8}$
100202	14TBA	3	1140	390	465	4	4	$1\frac{1}{8}$
100207	14TBA	5	1725	390	465	4	4	$1\frac{1}{8}$
100208	17TBA	5	1140	645	755	5	$4\frac{1}{2}$	$1\frac{1}{2}$
100209	19TBA	5	860	880	1010	6	5	$1\frac{1}{2}$
100211	14VBA	$7\frac{1}{2}$	1725	438	513	5	$4\frac{1}{2}$	$1\frac{1}{2}$
100212	17TBA	$7\frac{1}{2}$	1140	645	755	6	5	$1\frac{1}{2}$
100213	19TBA	$7\frac{1}{2}$	860	880	1010	7	6	$1\frac{1}{2}$
100214	17TBA	10	1725	645	755	6	5	$1\frac{1}{2}$
100215	19TBA	10	1140	880	1010	7	6	$1\frac{1}{2}$
100216	19TBA	10	860	880	1010	8	6	$1\frac{1}{2}$
100217	19TBA	15	1725	880	1010	7	6	$1\frac{1}{2}$
100218	19TBA	15	1140	880	1010	8	6	$1\frac{1}{2}$
100219	22TBA	15	860	1575	1765	9	8	$2\frac{1}{8}$
100220	19TBA	20	1725	880	1010	8	6	$1\frac{1}{2}$
100221	22TBA	20	1140	1575	1765	9	8	$2\frac{1}{8}$
100222	22VBA	20	860	1655	1900	9	8	$2\frac{1}{8}$
100223	22TBA	25	1725	1575	1765	9	8	$2\frac{1}{8}$
100224	22VBA	25	1140	1655	1900	9	8	$2\frac{1}{8}$
100225	22WBA	25	860	1745	1990	10	8	$2\frac{1}{8}$
100226	22TBA	30	1725	1575	1765	9	8	$2\frac{1}{8}$
100227	22VBA	30	1140	1655	1900	9	8	$2\frac{1}{8}$
100228	22WBA	30	860	1745	1990	10	8	$2\frac{1}{8}$
100231	22VBA	40	1725	1655	1900	9	8	$2\frac{1}{8}$
100232	22WBA	40	1140	1745	1990	10	8	$2\frac{1}{8}$
100233	*22WBA	50	1725	1745	1990	..	..	..

\*For direct connection only.

Write for prices and bulletins giving complete description.



Tighteners are not necessary. There being minimum slipping of the belt, wear is decreased and the item of belts in the expense account will be materially reduced.

Rockwood Pulleys are used extensively on dynamos, motors, drop hammers, and other high grade machinery. List prices on larger sizes furnished upon request.

2-in. Diam.		5½-in. Diam.		10-in. Diam.		13-in. Diam.		15-in. Diam.		17-in. Diam.		19-in. Diam.	
Face In.	Price Each	Face In.	Price Each	Face In.	Price Each	Face In.	Price Each	Face In.	Price Each	Face In.	Price Each	Face In.	Price Each
2	\$2.00	2	\$2.35	3	\$3.75	3	\$4.50	12	\$10.05	13	\$12.80	10	\$11.05
3	2.05	3	2.40	4	3.80	4	4.75	13	10.95	14	13.90	11	12.00
4	2.10	4	2.45	5	3.95	5	5.05					12	13.00
5	2.20	5	2.55	6	4.15	6	5.45	15-in. Diam.		17-in. Diam.		13	14.05
6	2.35	6	2.70	7	4.40	7	5.90					14	15.20
2½-in. Diam.		7	2.90	8	4.70	8	6.40			15	18.00	15	16.40
2	2.05	8	3.15	9	5.05	9	6.95	14	14.30	16	19.45		
3	2.10	9	3.45	10	5.50	10	7.55	15	15.45	17	20.95	19-in. Diam.	
4	2.15	10	3.80	11	6.00	11	8.25	16	16.75	18	22.50		
5	2.25	6-in. Diam.		12	6.55	12	9.00	17	18.10	19	24.15	16	21.15
6	2.40	3	3.05	10-in. Diam.				18	19.20	20	25.90	17	22.75
3-in. Diam.		4	3.15	13	8.65	13-in. Diam.		19	21.00	21	27.70	18	24.40
2	2.10	5	3.25	14	9.45	13	11.80	20	22.60	22	29.55	19	26.10
3	2.15	6	3.45	15	10.35	14	12.80	21	24.25	23	31.50	20	27.90
4	2.20	7	3.70	16	11.35	15	13.95	22	25.95	24	33.55	21	29.80
5	2.30	8	4.00	11-in. Diam.		16	15.20	16-in. Diam.		25	35.65	22	31.75
6	2.45	9	4.40	3	4.00	17	16.45	3	5.30	26	37.80	23	33.75
7	2.65	10	4.80	4	4.15	18	17.60	4	5.70	18-in. Diam.		24	35.85
3½-in. Diam.		11	5.30	5	4.30	19	19.20	5	6.10	3	5.95	25	38.05
2	2.15	7-in. Diam.		6	4.55	14-in. Diam.		6	6.60	4	6.45	26	40.30
3	2.20	3	3.20	7	4.90	3	4.75	7	7.20	5	7.00	27	42.60
4	2.25	4	3.25	8	5.25	4	5.00	8	7.80	6	7.60	28	45.00
5	2.35	5	3.40	9	5.70	5	5.30	9	8.50	7	8.30	20-in. Diam.	
6	2.50	6	3.55	10	6.20	6	5.70	10	9.25	8	9.05	4	7.15
7	2.70	7	3.80	11	6.75	7	6.10	11	10.05	9	9.90	5	7.75
8	2.95	8	4.15	12	7.40	8	6.60	12	10.95	10	10.75	6	8.45
4-in. Diam.		9	4.50	11-in. Diam.		9	7.20	13	11.90	11	11.70	7	9.20
2	2.20	10	4.95	13	9.70	10	7.80	14	12.90	12	12.70	8	10.00
3	2.25	11	5.45	14	10.55	11	8.50	16-in. Diam.		13	13.75	9	10.90
4	2.30	12	6.00	15	11.55	12	9.25	15	16.75	14	14.90	10	11.85
5	2.40	8-in. Diam.		16	12.60	13	10.05	16	18.05	18-in. Diam.		11	12.80
6	2.55	3	3.40	17	13.75	14-in. Diam.		17	19.50	15	19.30	12	13.90
7	2.75	4	3.45	18	14.95	14	13.15	18	21.00	16	20.75	13	15.00
8	3.00	5	3.55	12-in. Diam.		15	14.25	19	22.60	17	22.35	14	16.20
4½-in. Diam.		6	3.75	3	4.25	16	15.50	20	24.20	18	24.00	15	17.45
2	2.25	7	4.00	4	4.45	17	16.75	21	25.95	19	25.75	20-in. Diam.	
3	2.30	8	4.30	5	4.70	18	17.75	22	27.75	20	27.55	16	22.50
4	2.35	9	4.70	6	5.00	19	19.50	23	29.65	21	29.40	17	24.15
5	2.45	10	5.10	7	5.40	20	21.00	24	31.60	22	31.25	18	25.90
6	2.60	11	5.60	8	5.80	21	22.60	17-in. Diam.		23	33.40	19	27.70
7	2.80	12	6.20	9	6.30			3	5.65	24	35.50	20	29.55
8	3.05	13	6.80	10	6.90	15-in. Diam.		4	6.05	25	37.65	21	31.50
9	3.35	9-in. Diam.		11	7.50	3	5.00	5	6.55	26	39.90	22	33.55
5-in. Diam.		3	3.55	12	8.20	4	5.30	6	7.10	27	42.25	23	35.65
2	2.30	4	3.65	12-in. Diam.		5	5.70	7	7.75	19-in. Diam.		24	37.80
3	2.35	5	3.75	13	10.75	6	6.10	8	8.45	4	6.75	25	40.05
4	2.40	6	3.95	14	11.70	7	6.60	9	9.20	5	7.35	26	42.40
5	2.50	7	4.20	15	12.75	8	7.20	10	10.00	6	7.95	27	44.80
6	2.65	8	4.50	16	13.85	9	7.80	11	10.90	7	8.65	28	47.25
7	2.85	9	4.90	17	15.10	10	8.50	12	11.80	8	9.10	29	49.80
8	3.10	10	5.30	18	16.35	11	9.25			9	10.20	30	52.45
9	3.40	11	5.80									31	55.10
10	3.75	12	6.40										
		13	7.00										



## WESTINGHOUSE COOPER-HEWITT RECTIFIER OUTFITS

60 CYCLES

## OUTFITS FOR CHARGING VEHICLE BATTERIES

## Type W

Type W is non-automatic. The regulation link connectors controlling transformer taps are provided, by means of which the outfit can be adjusted to deliver approximately normal current to any number of cells within its rating on any line voltage within 10 per cent of normal. The current automatically tapers as the charge progresses, so that the charge finishes at a low rate.



Type W, 30-ampere

Trade No.	Mfrs. No.	A. C. Volts	No. of Lead Cells	No. of Edison Cells	DIRECT CURRENT Volts	Approx. Amps.	Wt., Lbs. Ship.	Price Each
117196	233907	110	38 to 46	56 to 66	76 to 120	30	280	\$540.00
117197	233908	220	38 to 46	56 to 66	76 to 120	30	265	540.00

Mfrs. No. and price includes outfit complete with one bulb, ammeter and voltmeter. Mfrs. No. does not include meters.

## OUTFITS FOR CHARGING LEAD-CELL BATTERIES

## Type AN

Type AN outfit is non-automatic. If the line voltage fails temporarily, the rectifier will not restart itself. To start it, the bulb must be tilted by hand, by means of a tilting handle. Adjustment of voltage or charging current is made by two dial switches, which control the connections to the reactance of the auto-transformer.



Types AN and AA

Trade No.	Mfrs. No.	No. of Cells	A. C. Volts	DIRECT CURRENT Volts	Approx. Amperes	Ship. Wt., Lbs.	Price Each
045912	145578	14 to 32	110	28 to 85	30	485	\$810.00
045913	145579	14 to 32	220	28 to 85	30	485	810.00
045914	145580	20 to 44	110	40 to 120	30	575	900.00
045915	145581	20 to 44	220	40 to 120	30	575	900.00

## Type AA

Type AA has the same features as Type AN and in addition a tilting magnet for automatic starting and a relay circuit breaker. In case of a failure of the line voltage, which will stop the rectifier, the cut-out closes the tilting transformer circuit so that the rectifier is ready to restart itself when the voltage is again applied.

045916	145582	14 to 32	110	28 to 85	30	520	850.00
045917	145583	14 to 32	220	28 to 85	30	510	850.00
045918	145584	20 to 44	110	40 to 120	30	600	940.00
045919	145585	20 to 44	220	40 to 120	30	600	940.00

Mfrs. No. and price include outfit complete with one bulb. Instruments should be ordered as separate items, if desired or an instrument panel is listed.

## OUTFITS FOR MOTION PICTURE PROJECTION

## Type AL

Type AL includes a dial switch for control of arc current and in which all parts are totally enclosed. It is automatic in starting and equipped with ready means for operating the arc on alternating current in case of temporary lack of bulb.

Trade No.	Mfrs. No.	A. C. Volts	DIRECT CURRENT Volts	Approx. Amperes	Ship. Wt., Lbs.	Price Each
71055	111125	110	55	30	610	\$870.00
71056	111126	220	55	30	610	870.00
71057	186049	110	55	40	1000	1040.00
71058	186050	220	55	40	1000	1040.00
71059	186051	110	55	50	1000	1150.00
71060	186052	220	55	50	1000	1150.00

## Type WL

Type WL is automatic in starting and equipped with ready means for operating the arc on alternating current in case of temporary lack of bulb.

117200	252694	110	55	30	350	550.00
117201	252695	220	55	30	350	550.00
117202	252696	110	55	40	425	800.00
117203	252697	220	55	40	425	800.00
117204	252698	110	55	50	450	830.00
117205	252699	220	55	50	450	830.00



# WESTINGHOUSE COOPER-HEWITT RECTIFIER OUTFITS



No. 124967

## ACCESSORIES

Measuring instruments are not supplied regularly with rectifier outfits because most electric vehicles are equipped with meters that are sufficiently accurate. Where meters are required, the panel, listed below, containing an ammeter, a voltmeter and a line switch, should be ordered except for the types E and W, upon which meters can be mounted.



Time Switch

The time switch is used to terminate the charge at a pre-determined time where batteries are to be charged at night or at times when attendance is not available.

Trade No.	Mfrs. No.	Description	Price Each
046085	124967	Meter panel, for Nos. 145578, 145579, 145582, 145583, 220243, 220244, 220245, 220246, 111125 and 111126	\$70.00
046086	124968	Meter panel, for Nos. 145580, 145581, 145584 and 145585.	70.00
014211	152526	Time switch for use with all types of rectifier outfits.	28.00

## COOPER-HEWITT RECTIFIER BULBS



No. 125185



No. 157957

046003	125185	For Type E outfit, Mfrs. No. 152999.	20.00
046094	125186	For Type E outfit, Mfrs. No. 154611, 222305-222307, 220241.	22.00
71074	222324	For Type E outfit, Mfrs. No. 222306-222308.	22.00
71077	242127	For Type W1 outfit, Mfrs. No. 242126	15.00
71075	222323	15-ampere size, for Type W outfit.	28.00
71078	252487	30-ampere size, for Type AL outfit.	42.00
71076	231580	30-ampere size, for Type W outfit.	42.00
046095	157957	30-ampere size, for 30-ampere Types AA, AN, or 20 and 30 amp. type AT	42.00
046096	114847	50-ampere size, for 50 ampere Types AE, and 40 and 50-ampere Type AT, AL, and WL outfit.	74.00



## WESTINGHOUSE COOPER-HEWITT RECTIFIER OUTFITS

## TYPE AT RECTIFIER OUTFITS

For Charging Telephone Batteries



50-ampere Outfit



10-ampere Outfit

All telephone exchanges require a source of direct current to charge the power battery. It is desirable that the charging equipment be such as to permit the batteries to be charged while in use, which means that pulsations in the charging current must be kept at a minimum value. Further, it is essential that the telephone lines be insulated from the power lines. The Type AT rectifiers meet both of these requirements by the use of a large amount of sustaining inductance in the direct current circuit and by use of insulating transformers instead of auto-transformers.

## 50-AMPERE OUTFIT

The large outfit is rated at 50 amperes and is capable of charging from 11 to 25 cells in series. They are adapted for use on either 110 or 220-volt 60-cycle service by connecting the halves of the transformer primary in multiple or series by means of link connections.

Two 5-point dials, which control taps of the transformer secondary, provide control for the number of cells in the battery and for the desired charging current.

All of these rectifiers are of the automatic type, being equipped with a tilting motor to tilt the bulb in starting. In addition to this automatic feature they are equipped with a three-element relay, one element of which operates the tilting motor, another controls the starting circuit and the third one is arranged to operate in the alarm circuit to give alarm in case of power failure or any trouble with the rectifier.

The outfit is enclosed in a properly ventilated iron case and the leads are brought out through suitable bushings. This gives complete protection to the bulb. The rectifier is entirely self-contained and no live parts are exposed.

Trade No.	Mfrs. No.	A. C.		No. of Cells	DIRECT CURRENT		APPROX. WT. LBS.		Price Each
		Volts	Cycles		Volts	Amps.	Net	Ship.	
170558	300305	110 or 220	60	11 to 25	22 to 68	50	870	1000	\$1440.00

## 10-AMPERE OUTFIT

The 10-ampere Type AT is a panel outfit arranged for wall mounting. A slate panel carrying the control switches, meters, line switch, bulb, etc., is mounted together with the transformer and sustaining coil on a frame arranged for wall mounting. Electrically, the outfits are similar to larger sizes of this type, except that the standard outfit is for 11 cells only. Panels are drilled and wired for meters. Two 4-point dial switches are provided for current control and snap switches for the alternating current and direct current lines. Link connections are provided whereby the transformer connections can be changed for operation on either 110 or 220-volt circuits. A special knife switch is provided which is used to transfer the ammeter from the direct current circuit of the outfit to the load circuit, thus permitting the reading of both charge and discharge current when the battery is floating on the line.

These outfits are not supplied for automatic starting.

Trade No.	Mfrs. No.	A. C.		No. of Cells	DIRECT CURRENT		APPROX. WT. LBS.		Price Each
		Volts	Cycles		Volts	Amps.	Net	Ship.	
170517	220241	110 or 220	60	11 only	22 to 30	10	385	485	\$370.00

Mfrs. No. and price include outfit complete with one bulb. Instruments should be ordered as separate item, if desired, or an instrument panel is listed.

Each are connected to batteries are to electric power. Running the charge expense of a motor.

Trade No.  
203163  
203164  
203165

General Switch Outfit

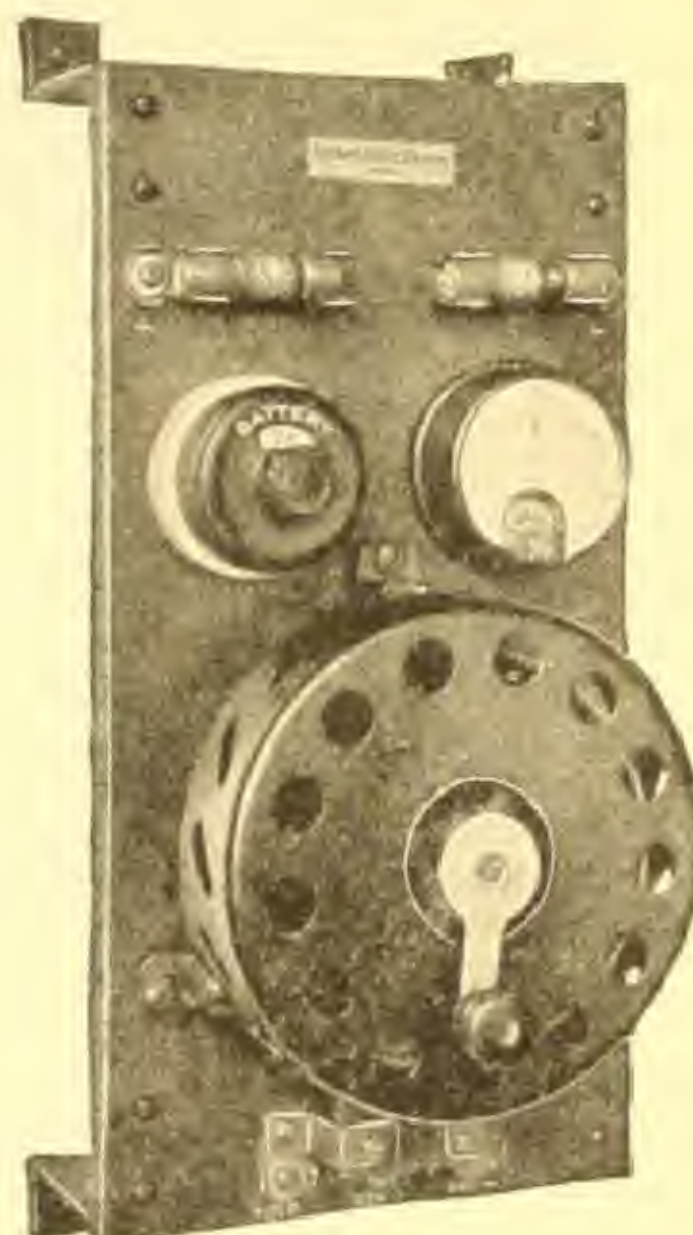


# BATTERY CHARGING OUTFITS

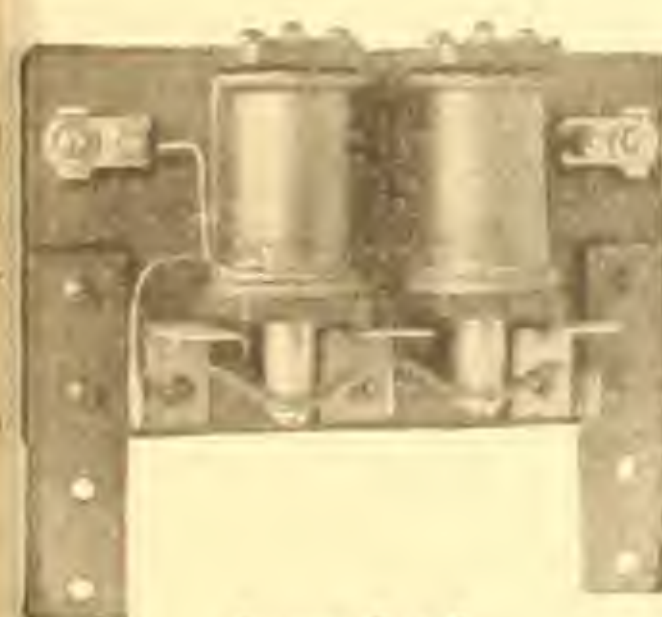
TYPE BC4, BELT DRIVEN



Generator



Switchboard



Cutout Panel

The set consists of Type BC4 Generator, 8 to 40 volts, 11 amperes and a suitable wall switchboard. The generator is furnished with a belt tightener base, oil ring bearings, is shunt wound and will charge from one to ten 6-volt batteries. A pulley is not furnished as part of the set, but suitable sizes to operate from any source of power are always carried in stock. These pulleys are  $\frac{1}{2}$ -inch bore, 2-inch face and are stocked in 2 $\frac{1}{2}$ , 3 $\frac{1}{2}$ , 4 and 5-inch diameter. The switchboard is equipped with ammeter, field rheostat, switch, fuses and terminals.

A two-circuit cutout panel is furnished as an extra and supplied whenever ordered. The cutout coils on this panel are series coils only and are held up by series charging current.

When more than five 6-volt batteries are to be charged at one time, it is necessary to connect them in two strings in parallel; the maximum capacity is reached when two strings of 5 batteries each are connected. This set is so admirably suited for battery charging, wherever no more than 10 batteries are to be charged at one time, that it is occasionally used even in places where there is electric power. In such cases, it is usual to provide a single motor for operating the shop and running the charging generator. In this way, where surplus driving power is available, the expense of a motor generator set can sometimes be saved.

Trade No.	Description	Price Each
203163	Generator, 8 to 40 volts, 11 amperes	\$70.00
203164	Switchboard	30.00
203165	Cutout panel, two-circuit	20.00



## WESTINGHOUSE RECTIGON BATTERY-CHARGERS

Complete Private Garage Outfit  
with Cover, No. 28239512-ampere, 75-volt, Rectigon Outfit  
with Cover, No. 301860

## APPLICATION

Westinghouse Rectigons are suitable for use wherever direct current is required for battery charging. The source of supply must be alternating current within the limits of the voltage and frequency ratings.

The largest present application for the rectigon battery-charger is automobile battery charging. Wherever small batteries are to be charged from alternating current the rectigon can usually be used. Examples of such applications are found in alarm systems, in battery-operated signal systems on railroads, in stations where miners' lamp batteries are recharged and in telephone installations where one battery is charged while a duplicate is in service. The rectigon can also be used to supply current for electro-plating.

## DISTINCTIVE FEATURES

Among the chief advantages which the rectigon has over other apparatus used for the same purpose are the following:

Starts operating automatically as soon as the direct-current leads are connected to load and alternating-current supply is turned on.

Lower first cost due to decreased number of parts such as starting devices, sustaining coils, resistance, etc.

Efficiency of garage type outfit where operating at full capacity is higher than other apparatus. No need to remove batteries from car when using a portable unit. No knowledge of electricity is necessary to use the outfit effectively.

Absolutely impossible to have current reversal from batteries.

For the current and voltage values given under each type, rectigons are superior to mercury arc rectifiers because they are inherently self-starting. As soon as the line voltage is applied, the outfit is ready to operate and the load current will flow whenever the circuit is closed.

It is practically impossible for any part of the apparatus, other than the bulb, to get out of order while in service. The bulb, of course, requires periodical renewals but its life is long and fairly uniform so that the expense and trouble of renewals is slight.

## PRIVATE GARAGE RECTIGON OUTFITS

Nos. 282395 and 285168

**APPLICATION AND CONSTRUCTION.**—Private garage rectigon outfits are for the use of the car owner who wants to charge his own batteries.

Although the 2-ampere rectigon is too small to put a full charge into the ordinary size starting and lighting battery in a single night, it is, nevertheless, to be recommended for giving a battery a soaking charge, in order to keep the sulphate from accumulating on the plates. Due to the low charging rate, this outfit will not damage the battery if left on for an indefinite period after the battery has become fully charged. Should the battery become entirely discharged, the 2-ampere size if left on for 12 hours, will put enough life into it to enable the car owner to start the car the next morning. This size outfit is particularly adaptable for charging storage batteries on motor cycles, which use a smaller capacity battery than the average automobile.

WEST

12-ampere 75-volt Rectigon  
Cover

RECTIGON O

APPLICATION  
75-volt outfit but  
because of its sim

OPERATION—  
choice of three co  
The first combina  
rie. Or, by sim  
group. A sec  
of ten batteries at  
into three groups  
the other two gro  
group of batter

Trade No.	Model No.
205610	282395
205611	285168
205612	296300
205613	*301860

\*Includes extra

Model  
No.  
277081  
282414  
282416  
282416



## WESTINGHOUSE RECTIGON BATTERY-CHARGERS



6-ampere 75-volt Rectigon, No. 296304  
Cover Removed

### RECTIGON OUTFITS FOR PUBLIC GARAGE AND BATTERY SERVICE STATIONS

No. 296304 6 Ampere 75 Volts

**APPLICATION.**—The Westinghouse Garage Type Rectigon for charging, starting, lighting and igniting batteries affords an extremely flexible equipment for garage and service stations where the number of batteries to be charged is variable.

**OPERATION.**—The simplicity of the rectigon will make a strong appeal to the garage owner, as a special attendant is not necessary. The outfit is started by merely turning on the snap switch and adjusting the dial switch to obtain the proper current for the number of batteries being charged. There is no danger in case of low battery; the batteries cannot discharge and as soon as the line voltage is restored, the outfit will automatically resume operation.

**INSTALLATION.**—One man can install a rectigon. It can be placed on a bench, or mounted on the wall by means of two strap hangers, which are furnished with it.

### RECTIGON OUTFITS FOR LARGE GARAGES AND BATTERY SERVICE STATIONS

No. 301860 12 Ampere 75 Volts

**APPLICATION.**—The 12-ampere, 75-volt Rectigon is similar in application to the 6-ampere, 75-volt outfit but has twice the capacity of the smaller size. This unit is flexible in control, and because of its simplicity, is easy to operate.

**OPERATION.**—By means of the arrangement of the direct-current leads, the user is given the choice of three combinations for charging batteries, as there are always two circuits available. The first combination will charge two groups of from one to ten batteries each, at a 6-ampere rate. Or, by simply turning the regulating handle to the off position, it is possible to start one group. A second rearrangement of the external connections permits one to charge a maximum of ten batteries at the rate of 12 amperes. The third combination is an arrangement of batteries into three groups so that the current going into one group will equal the sum of the currents in the other two groups. In this manner it is possible to give a high charging rate to a special group of batteries and at the same time charge two other groups at a low rate.

### PRICES AND RATINGS OF RECTIGON COMPLETE

Trade No.	Model No.	A. C. Volts	Cycles	No. of Leads	D. C. Volts	A. C. Amperes	Wt. Lbs. Approx.	Price Each
05610	282295	110	50	2 1/2 5	6-15	2-1	5 1/4	\$12.50
05611	285168	110	50	2 1/2 5	6-15	5-8	21	22.50
05612	296304	110	50	2 1/2 50	6-75	1-4	85	127.50
05613	*301860	110	50	2 1/2 50	6-75	12	240	229.50

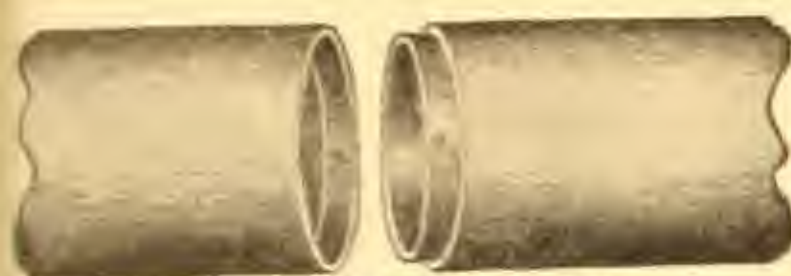
\*Includes extra bulb

### RENEWAL BULBS

Model No.	Trade No.	Wt. Lbs. Approx.	Price Each
05610	282295	5 1/4	\$4.50
05611	285168	21	8.50
05612	296304	85	8.50
05613	301860	240	8.50



## AMERICAN FIBRE CONDUIT



Socket Joint Type



American Harrington Joint Type

Good electrical conduits must give permanency, be non-absorbent, show an extremely high puncture resistance and have smooth interiors.

American Fibre Conduit offers all these features and, in addition, is self-aligning, has symmetrical tight-fitting joints, guaranteeing continuity of bore and non-intercommunication of ducts and by its use oftentimes serious problems of electrolysis and induction are reduced to a minimum.

This conduit is of homogeneous construction, light, strong and compact. It will stand the most rigid tests.

A good conduit system, regardless of its initial cost, is one of the cheapest forms of cable insurance.

American Fibre Conduit is made in two types of joint, the mortise and tenon, or Socket Joint, and tapered, or American Harrington Joint, with bends, elbows and fittings.

### SOCKET JOINT TYPE

In this type of joint, the mortise and tenon cut on the ends of each length of conduit are mechanically turned, are of uniform size, slightly tapered and being automatically formed and reamed on the inside during the process of machining, the connection obtained is perfect in fit and when installed shows no offset at the joint.

The mortise and tenon on all sizes up to  $3\frac{1}{2}$  inches inside diameter are cut  $\frac{3}{8}$  inch long. On the  $3\frac{1}{2}$  inches and all larger sizes it is cut  $\frac{1}{2}$  inch long.

### AMERICAN HARRINGTON JOINT TYPE

In the American Harrington type of joint the same mechanical and automatic features are employed as in the Socket Joint type.

The ends of the conduit are cut with a long graceful taper and fit in a sleeve cut inversely. This allows of greater freedom and flexibility at the joint and while the ends of the conduit do not butt in the sleeve there is no offset or obstruction to interfere with rodding or drawing of cables.

### SPECIAL CONDUIT MATERIAL

Equipment being on hand, prompt shipment can also be made of  $4\frac{1}{2}$ -inch diameter in both the Socket and Harrington Joint types, with bends and fittings.

Upon request, quotations will be furnished on this size as well as on conduit with heavier wall than standard, on bends of any degree or radii, also material cut to sketch or special length.

### UTILITY COUPLINGS

Utility couplings are used for fitting up short lengths of conduit, reclaiming broken lengths and fractured ends and doing away with the expense and annoyance of a tooling machine, and their use reduces rejection from fracture to a minimum.



Utility Coupling

For Conduit Inches	Length Over All Inches	Wt., Lbs. Each	Price Each
2	$2\frac{1}{4}$	\$0.20	\$0.10
$2\frac{1}{2}$	$2\frac{3}{4}$	.32	.11
3	3	.48	.12
$3\frac{1}{2}$	$3\frac{1}{2}$	.46	.14
4	4	.75	.16
$4\frac{1}{2}$	$4\frac{1}{2}$	1.00	.20



## PYRAMID CARBON BRUSHES

Pyramid Carbon Brushes are now arranged according to a group system, each grade being numbered, and brushes whose characteristics, composition and prices are related, being placed in the same group of series. Thus, the two hundred series includes all brushes whose numbers begin with two, the three hundred series whose numbers begin with three, and so on. A short description of the characteristics of the groups in general, together with the special features of some of the most popular brushes, is given below.

## 200 Series

These are molded electro-graphitic brushes, particularly noted for their long life and exceptional commutating characteristics. They have high carrying capacity and are designed chiefly for use on high speed generators and motors with slotted commutators, and on some interpole machines with flush mica.

More machines with slotted commutators are equipped with No. 255 than with any other brush made. It has a very low coefficient of friction, permanent lubricating qualities, a high contact drop, and is absolutely non-abrasive.

## 300 Series

The 300 series have been designed to meet severe and exacting conditions in generator and motor service on unslotted commutators. The various grades embrace characteristics suitable to a wide range of peripheral speed, current density, and sparking tendency. The lubricating qualities are permanent and exceptionally good, giving quiet running, freedom from commutator wear, and insuring a clean, glossy commutator surface.

Brush 306 is the most commonly used in this series.

## 400 Series

These are molded pure carbon brushes characterized by their high contact drop and strength. They have good lubricating qualities, and give the commutator a clean glossy appearance with a minimum of wear. They are recommended particularly for machines with slotted commutators.

Brush 407 will give good service on slotted commutators, where operating conditions are unusually severe.

No. 414 grade is also used on brass and copper slip rings where the current density is not more than 74 amperes per square inch.

## 500 Series

These are molded metal graphite brushes, and for this reason are used on commutators and on slip rings of rotary converters where the current density is very high and the voltage low. The current carrying capacity varies.

## 600 Series

Adaptability for operation at high speeds without chipping characterizes these brushes. They are molded all-graphite brushes, and have long life. They are, however, not recommended for any low speed machines.

## 700 Series

These are carbon graphite brushes adapted to a wide range of motor and generator service. They are, however, not recommended on slotted commutators or where heavy brush pressure is required, such as crane and elevator motors and for peripheral speeds over 3500 feet per minute.

## 800 Series

These are hard graphitic brushes especially designed for service on fan motors, small domestic motors, and other places where only a minimum amount of care and attention can be given them. They are capable of operation at a high current density, and have good lubricating qualities.

The 840 is most commonly used for medium speed motors and generators.

## Small Brushes

The growing use of electricity in the home and office has led to a very high development in devices driven by small motors. For this class of service there are manufactured small brushes, suitable for any size motors or generator, and they can be supplied promptly and in large quantities.

## Automobile Brushes

Graphite and metal graphite brushes for automobile lighting generators and starting motors of any type can be furnished, each grade being specially fitted and tested on the particular machine for which it is recommended.

When only  
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Where for  
a sketch or  
Wherever  
to furnish the  
pending con-

The correct  
Direct or  
commutator of  
on machine  
Some grade



No. 1

No.  
3  
6  
9

Note—The  
should be added  
to be attached.  
brushes. Prices

## LIST PRICES

Slot in center of  
Slot in end of two  
Drilling holes  
Countersinking  
Single bevel  
Double bevel  
Four-corner bevel  
Groove  
Single saddle  
Double saddle  
These figures  
desired before dis-



## PYRAMID CARBON BRUSHES

### HOW TO ORDER

When ordering carbon brushes, give exact dimensions desired, specifying length, first, width second, and thickness, third.

Where brushes with shunts or special work, such as bevels, holes, shoulders, etc., are required, a sketch or sample will be necessary.

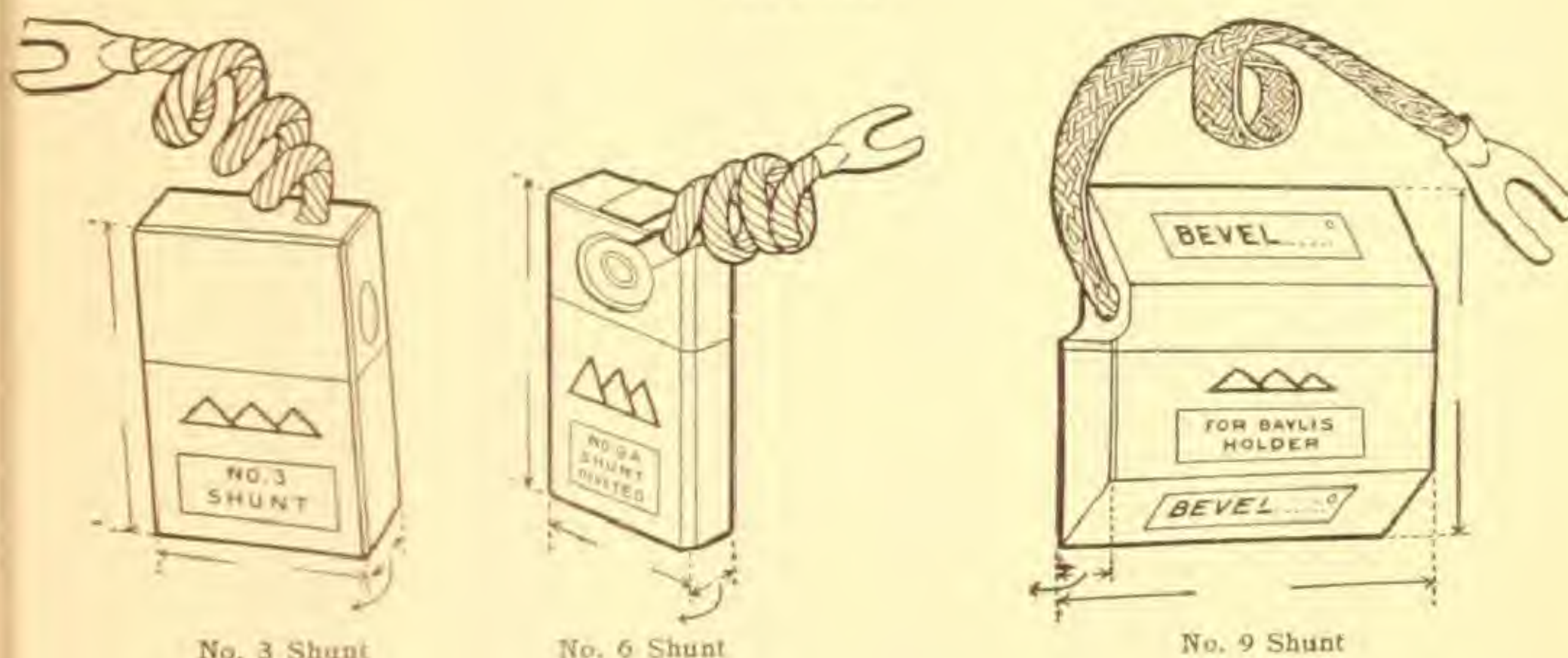
Wherever possible give the information requested below, as we shall then be better prepared to furnish the grade of brush best adapted to your requirements, for when we know the local operating conditions we can generally improve the brush service.

### INFORMATION REQUIRED

The correct grade can be furnished with the following information concerning your machine: Direct or alternating current; manufacturer and type; capacity in amperes; speed; diameter of commutator or collector rings; is commutator slotted, i. e., mica undercut; total number of brushes on machine. Send worn sample, if possible.

Some grades cannot be furnished in sizes larger than 5 inches long by 3 inches wide.

### SHUNTS



No.	AREA OF BRUSH IN SQUARE INCHES		
	1/2-inch or less	1/2 to 1 Inch	Over 1 Inch
3	\$21.50	\$25.75	\$32.00
6	45.00	51.30	58.20
9	25.50	33.50	35.20

NOTE.—The prices given in the above table are list prices per hundred connections. They should be added to the price per hundred of the size and number of brush to which the shunt is to be attached, then deduct discount. These prices also apply only to carbon and graphite brushes. Prices for metal-graphite brushes on application.

### LIST PRICES OF SPECIAL WORK ON CARBON AND GRAPHITE BRUSHES

	Price per 100
Slot in center of brush	\$11.50
Slot in end of brush	2.90
Drilling holes	2.60
Countersinking holes	2.00
Single bevel	3.75
Double bevel	2.00
Four-corner bevel	1.75
Groove	3.75
Single saddle recess without holes	7.20
Double saddle recess without holes	

These figures are to be added to the list prices per hundred brushes of the size and grade desired before discount is deducted.



## CARBON BRUSHES, THREE AND SEVEN HUNDRED SERIES

For price of 400 and 800 Series, Multiply by  $1\frac{1}{2}$ ; for 200 Series, by  $2\frac{1}{2}$ ; and for 600 Series, by  $3\frac{1}{3}$ ; 500 Series take a special price.

$\frac{1}{4}$ INCH THICK		$\frac{3}{8}$ INCH THICK		$\frac{1}{2}$ INCH THICK		$\frac{3}{4}$ INCH THICK	
Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100
1 x $\frac{1}{2}$	\$8.45	1 x $\frac{1}{2}$	\$8.45	1 x $\frac{1}{2}$	\$8.45	1 x $\frac{3}{4}$	\$8.45
1 x $\frac{3}{4}$	8.45	1 x $\frac{3}{4}$	8.45	1 x $\frac{3}{4}$	8.45	1 x 1	8.45
1 x 1	8.45	1 x 1	8.45	1 x 1	8.45	1 $\frac{1}{2}$ x $\frac{3}{4}$	10.15
1 $\frac{1}{2}$ x $\frac{1}{2}$	8.45	1 $\frac{1}{2}$ x $\frac{1}{2}$	8.45	1 $\frac{1}{2}$ x $\frac{1}{2}$	8.45	1 $\frac{1}{2}$ x 1	11.55
1 $\frac{1}{2}$ x $\frac{3}{4}$	8.45	1 $\frac{1}{2}$ x $\frac{3}{4}$	8.70	1 $\frac{1}{2}$ x $\frac{3}{4}$	9.55	1 $\frac{1}{2}$ x 1 $\frac{1}{4}$	12.95
1 $\frac{1}{2}$ x 1	9.00	1 $\frac{1}{2}$ x 1	9.85	1 $\frac{1}{2}$ x 1	10.70	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	14.65
1 $\frac{1}{2}$ x 1 $\frac{1}{4}$	9.80	1 $\frac{1}{2}$ x 1 $\frac{1}{4}$	10.95	1 $\frac{1}{2}$ x 1 $\frac{1}{4}$	12.10	2 x $\frac{3}{4}$	12.65
1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	10.70	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	12.10	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	13.20	2 x 1	14.60
2 x $\frac{1}{2}$	9.00	2 x $\frac{1}{2}$	9.55	2 x $\frac{1}{2}$	10.10	2 x 1 $\frac{1}{4}$	16.60
2 x $\frac{3}{4}$	10.10	2 x $\frac{3}{4}$	10.95	2 x $\frac{3}{4}$	11.80	2 x 1 $\frac{1}{2}$	18.55
2 x 1	11.25	2 x 1	12.40	2 x 1	13.50	2 x 1 $\frac{3}{4}$	20.55
2 x 1 $\frac{1}{4}$	12.40	2 x 1 $\frac{1}{4}$	13.80	2 x 1 $\frac{1}{4}$	15.20	2 x 2	22.50
2 x 1 $\frac{1}{2}$	13.50	2 x 1 $\frac{1}{2}$	15.20	2 x 1 $\frac{1}{2}$	16.90	2 $\frac{1}{2}$ x $\frac{3}{4}$	15.20
2 x 1 $\frac{3}{4}$	14.60	2 x 1 $\frac{3}{4}$	16.60	2 x 1 $\frac{3}{4}$	18.55	2 $\frac{1}{2}$ x 1	17.75
2 x 2	15.75	2 x 2	18.00	2 x 2	20.25	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	20.25
2 $\frac{1}{2}$ x $\frac{1}{2}$	10.70	2 $\frac{1}{2}$ x $\frac{1}{2}$	11.55	2 $\frac{1}{2}$ x $\frac{1}{2}$	12.10	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	22.80
2 $\frac{1}{2}$ x $\frac{3}{4}$	12.10	2 $\frac{1}{2}$ x $\frac{3}{4}$	13.20	2 $\frac{1}{2}$ x $\frac{3}{4}$	14.35	2 $\frac{1}{2}$ x 1 $\frac{3}{4}$	25.05
2 $\frac{1}{2}$ x 1	13.50	2 $\frac{1}{2}$ x 1	14.90	2 $\frac{1}{2}$ x 1	16.30	2 $\frac{1}{2}$ x 2	27.55
2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	14.90	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	16.60	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	18.55	2 $\frac{1}{2}$ x 2 $\frac{1}{4}$	30.10
2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	16.30	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	18.55	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	20.55	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	32.65
2 $\frac{1}{2}$ x 1 $\frac{3}{4}$	17.70	2 $\frac{1}{2}$ x 1 $\frac{3}{4}$	20.55	2 $\frac{1}{2}$ x 1 $\frac{3}{4}$	22.80	3 x 1	20.80
2 $\frac{1}{2}$ x 2	19.10	2 $\frac{1}{2}$ x 2	21.95	2 $\frac{1}{2}$ x 2	24.75	3 x 1 $\frac{1}{4}$	23.90
2 $\frac{1}{2}$ x 2 $\frac{1}{4}$	20.55	2 $\frac{1}{2}$ x 2 $\frac{1}{4}$	23.65	2 $\frac{1}{2}$ x 2 $\frac{1}{4}$	27.00	3 x 1 $\frac{1}{2}$	26.70
2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	21.95	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	25.60	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$	28.95	3 x 1 $\frac{3}{4}$	29.80
3 x 1	15.75	3 x 1	17.45	3 x 1	19.10	3 x 2	32.60
3 x 1 $\frac{1}{4}$	17.45	3 x 1 $\frac{1}{4}$	19.70	3 x 1 $\frac{1}{4}$	21.65	3 x 2 $\frac{1}{4}$	35.70
3 x 1 $\frac{1}{2}$	19.10	3 x 1 $\frac{1}{2}$	21.70	3 x 1 $\frac{1}{2}$	24.20	3 x 2 $\frac{1}{2}$	38.55
3 x 1 $\frac{3}{4}$	20.80	3 x 1 $\frac{3}{4}$	23.90	3 x 1 $\frac{3}{4}$	26.70	3 x 3	44.45
3 x 2	22.50	3 x 2	25.90	3 x 2	29.25	3 $\frac{1}{2}$ x 1	23.90
3 x 2 $\frac{1}{4}$	24.20	3 x 2 $\frac{1}{4}$	28.10	3 x 2 $\frac{1}{4}$	31.80	3 $\frac{1}{2}$ x 1 $\frac{1}{4}$	27.30
3 x 2 $\frac{1}{2}$	25.90	3 x 2 $\frac{1}{2}$	30.10	3 x 2 $\frac{1}{2}$	34.30	3 $\frac{1}{2}$ x 1 $\frac{1}{2}$	30.95
3 x 3	29.25	3 x 3	34.30	3 x 3	39.40	3 $\frac{1}{2}$ x 1 $\frac{3}{4}$	34.30
3 $\frac{1}{2}$ x 1	18.00	3 $\frac{1}{2}$ x 1	20.00	3 $\frac{1}{2}$ x 1	21.95	3 $\frac{1}{2}$ x 2	37.70
3 $\frac{1}{2}$ x 1 $\frac{1}{4}$	20.00	3 $\frac{1}{2}$ x 1 $\frac{1}{4}$	22.50	3 $\frac{1}{2}$ x 1 $\frac{1}{4}$	25.05	3 $\frac{1}{2}$ x 2 $\frac{1}{4}$	41.05
3 $\frac{1}{2}$ x 1 $\frac{1}{2}$	21.95	3 $\frac{1}{2}$ x 1 $\frac{1}{2}$	25.05	3 $\frac{1}{2}$ x 1 $\frac{1}{2}$	27.85	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	44.75
3 $\frac{1}{2}$ x 1 $\frac{3}{4}$	23.90	3 $\frac{1}{2}$ x 1 $\frac{3}{4}$	27.30	3 $\frac{1}{2}$ x 1 $\frac{3}{4}$	30.95	3 $\frac{1}{2}$ x 3	51.50
3 $\frac{1}{2}$ x 2	25.90	3 $\frac{1}{2}$ x 2	29.80	3 $\frac{1}{2}$ x 2	33.75	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$	58.50
3 $\frac{1}{2}$ x 2 $\frac{1}{4}$	27.85	3 $\frac{1}{2}$ x 2 $\frac{1}{4}$	32.35	3 $\frac{1}{2}$ x 2 $\frac{1}{4}$	36.85	4 x 1	27.00
3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	29.80	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	34.90	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	39.65	4 x 1 $\frac{1}{4}$	30.95
3 $\frac{1}{2}$ x 3	33.75	3 $\frac{1}{2}$ x 3	39.65	3 $\frac{1}{2}$ x 3	45.55	4 x 1 $\frac{1}{2}$	34.90
3 $\frac{1}{2}$ x 3 $\frac{1}{2}$	37.70	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$	44.75	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$	51.45	4 x 1 $\frac{3}{4}$	38.80
4 x 1	20.25	4 x 1	22.50	4 x 1	24.75	4 x 2	42.75
4 x 1 $\frac{1}{4}$	22.50	4 x 1 $\frac{1}{4}$	25.30	4 x 1 $\frac{1}{4}$	28.15	4 x 2 $\frac{1}{4}$	46.70
4 x 1 $\frac{1}{2}$	24.75	4 x 1 $\frac{1}{2}$	28.15	4 x 1 $\frac{1}{2}$	31.50	4 x 2 $\frac{1}{2}$	50.65
4 x 1 $\frac{3}{4}$	27.00	4 x 1 $\frac{3}{4}$	30.95	4 x 1 $\frac{3}{4}$	34.90	4 x 3	58.50
4 x 2	29.25	4 x 2	33.75	4 x 2	38.25	4 x 3 $\frac{1}{2}$	66.40
4 x 2 $\frac{1}{4}$	31.50	4 x 2 $\frac{1}{4}$	36.55	4 x 2 $\frac{1}{4}$	41.65	4 x 4	74.25
4 x 2 $\frac{1}{2}$	33.75	4 x 2 $\frac{1}{2}$	39.40	4 x 2 $\frac{1}{2}$	45.00	4 $\frac{1}{2}$ x 1	30.10
4 x 3	38.25	4 x 3	45.00	4 x 3	51.75	4 $\frac{1}{2}$ x 1 $\frac{1}{2}$	39.10
4 x 3 $\frac{1}{2}$	42.75	4 x 3 $\frac{1}{2}$	50.65	4 x 3 $\frac{1}{2}$	58.56	4 $\frac{1}{2}$ x 2	47.80
4 x 4	47.25	4 x 4	56.25	4 x 4	65.25	4 $\frac{1}{2}$ x 2 $\frac{1}{2}$	56.80
4 $\frac{1}{2}$ x 1	22.50	4 $\frac{1}{2}$ x 1	25.05	4 $\frac{1}{2}$ x 1	27.35	4 $\frac{1}{2}$ x 3	65.55
4 $\frac{1}{2}$ x 1 $\frac{1}{2}$	27.55	4 $\frac{1}{2}$ x 1 $\frac{1}{2}$	31.50	4 $\frac{1}{2}$ x 1 $\frac{1}{2}$	35.15	4 $\frac{1}{2}$ x 3 $\frac{1}{2}$	74.55
4 $\frac{1}{2}$ x 2	32.65	4 $\frac{1}{2}$ x 2	37.70	4 $\frac{1}{2}$ x 2	42.75	4 $\frac{1}{2}$ x 4	83.25
4 $\frac{1}{2}$ x 2 $\frac{1}{2}$	37.70	4 $\frac{1}{2}$ x 2 $\frac{1}{2}$	44.15	4 $\frac{1}{2}$ x 2 $\frac{1}{2}$	50.35	5 x 1	33.20
4 $\frac{1}{2}$ x 3	42.75	4 $\frac{1}{2}$ x 3	50.35	4 $\frac{1}{2}$ x 3	57.95	5 x 1 $\frac{1}{2}$	43.05
4 $\frac{1}{2}$ x 3 $\frac{1}{2}$	47.80	4 $\frac{1}{2}$ x 3 $\frac{1}{2}$	56.80	4 $\frac{1}{2}$ x 3 $\frac{1}{2}$	65.55	5 x 2	52.90
4 $\frac{1}{2}$ x 4	52.90	4 $\frac{1}{2}$ x 4	63.00	4 $\frac{1}{2}$ x 4	73.15	5 x 2 $\frac{1}{2}$	62.75
5 x 1	24.75	5 x 1	27.55	5 x 1	30.40	5 x 3	72.55
5 x 1 $\frac{1}{2}$	30.40	5 x 1 $\frac{1}{2}$	34.60	5 x 1 $\frac{1}{2}$	38.80	5 x 3 $\frac{1}{2}$	82.40
5 x 2	36.00	5 x 2	41.65	5 x 2	47.25	6 x 4	92.25
5 x 2 $\frac{1}{2}$	41.65	5 x 2 $\frac{1}{2}$	48.65	5 x 2 $\frac{1}{2}$	55.70	.....	.....
5 x 3	47.25	5 x 3	55.70	5 x 3	64.15	.....	.....
5 x 3 $\frac{1}{2}$	52.90	5 x 3 $\frac{1}{2}$	62.75	5 x 3 $\frac{1}{2}$	72.55	.....	.....
5 x 4	58.50	5 x 4	69.75	5 x 4	81.00	.....	.....

CARBO

For price  
Series, by 3 $\frac{1}{4}$  INCH TH

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Table

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x 1

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x 2

x 2  $\frac{1}{4}$ x 2  $\frac{1}{2}$ x 2  $\frac{3}{4}$ 

x 3

x 3  $\frac{1}{4}$ x 3  $\frac{1}{2}$ x 3  $\frac{3}{4}$ 

x 4

x 4  $\frac{1}{4}$ x 4  $\frac{1}{2}$ x 4  $\frac{3}{4}$ 

x 5

x 5  $\frac{1}{4}$ x 5  $\frac{1}{2}$ x 5  $\frac{3}{4}$ 

x 6

x 6  $\frac{1}{4}$ x 6  $\frac{1}{2}$ x 6  $\frac{3}{4}$ 

x 7

x 7  $\frac{1}{4}$ x 7  $\frac{1}{2}$ x 7  $\frac{3}{4}$ 

x 8

x 8  $\frac{1}{4}$ x 8  $\frac{1}{2}$ x 8  $\frac{3}{4}$ 

x 9

x 9  $\frac{1}{4}$ x 9  $\frac{1}{2}$ x 9  $\frac{3}{4}$ 

x 10

x 10  $\frac{1}{4}$ x 10  $\frac{1}{2}$ x 10  $\frac{3}{4}$ 

x 11

x 11  $\frac{1}{4}$ x 11  $\frac{1}{2}$ x 11  $\frac{3}{4}$ 

x 12

x 12  $\frac{1}{4}$ x 12  $\frac{1}{2}$ x 12  $\frac{3}{4}$ 

x 13



# CARBON BRUSHES, THREE AND SEVEN HUNDRED SERIES

For price of 400 and 800 Series, Multiply by  $1\frac{1}{2}$ ; for 200 Series, by  $2\frac{1}{2}$ ; and for 600 Series, by  $3\frac{1}{2}$ ; 500 Series take a Special Price.

$\frac{3}{4}$ INCH THICK		$\frac{7}{8}$ INCH THICK		1 INCH THICK		$1\frac{1}{8}$ INCHES THICK	
Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100
1 x $\frac{3}{4}$	\$8.45	1 x 1	\$9.55	1 x 1	\$10.15	$1\frac{1}{2}$ x $1\frac{1}{4}$	\$17.15
1 x 1	9.00	$1\frac{1}{2}$ x 1	13.25	$1\frac{1}{2}$ x 1	14.05	$1\frac{1}{2}$ x $1\frac{1}{2}$	19.70
$1\frac{1}{2}$ x $\frac{3}{4}$	10.70	$1\frac{1}{2}$ x $1\frac{1}{4}$	15.20	$1\frac{1}{2}$ x $1\frac{1}{4}$	16.30	2 x $1\frac{1}{4}$	22.25
$1\frac{1}{2}$ x 1	12.40	$1\frac{1}{2}$ x $1\frac{1}{2}$	17.15	$1\frac{1}{2}$ x $1\frac{1}{2}$	18.30	2 x $1\frac{1}{2}$	25.30
$1\frac{1}{2}$ x $1\frac{1}{2}$	14.05	2 x 1	16.90	2 x 1	18.00	2 x $1\frac{3}{4}$	28.40
$1\frac{1}{2}$ x $1\frac{3}{4}$	15.75	2 x $1\frac{1}{4}$	19.40	2 x $1\frac{1}{4}$	20.80	2 x 2	31.50
2 x $\frac{3}{4}$	13.50	2 x $1\frac{1}{2}$	21.95	2 x $1\frac{1}{2}$	23.65	$2\frac{1}{2}$ x $1\frac{1}{4}$	27.30
2 x 1	15.75	2 x $1\frac{3}{4}$	24.50	2 x $1\frac{3}{4}$	26.45	$2\frac{1}{2}$ x $1\frac{1}{2}$	31.25
2 x $1\frac{1}{4}$	18.00	2 x 2	27.00	2 x 2	29.25	$2\frac{1}{2}$ x $1\frac{3}{4}$	34.90
2 x $1\frac{1}{2}$	20.25	$2\frac{1}{2}$ x 1	20.55	$2\frac{1}{2}$ x 1	21.95	$2\frac{1}{2}$ x 2	38.80
2 x $1\frac{3}{4}$	22.50	$2\frac{1}{2}$ x $1\frac{1}{4}$	23.65	$2\frac{1}{2}$ x $1\frac{1}{4}$	25.60	$2\frac{1}{2}$ x $2\frac{1}{4}$	42.75
2 x 2	24.75	$2\frac{1}{2}$ x $1\frac{1}{2}$	27.00	$2\frac{1}{2}$ x $1\frac{1}{2}$	29.00	$2\frac{1}{2}$ x $2\frac{1}{2}$	46.70
$2\frac{1}{2}$ x $\frac{3}{4}$	16.30	$2\frac{1}{2}$ x $1\frac{3}{4}$	30.10	$2\frac{1}{2}$ x $1\frac{3}{4}$	32.65	3 x $1\frac{1}{4}$	32.35
$2\frac{1}{2}$ x 1	19.15	$2\frac{1}{2}$ x 2	33.20	$2\frac{1}{2}$ x 2	36.00	3 x $1\frac{1}{2}$	36.85
$2\frac{1}{2}$ x $1\frac{1}{4}$	21.95	$2\frac{1}{2}$ x $2\frac{1}{4}$	36.30	$2\frac{1}{2}$ x $2\frac{1}{4}$	39.65	3 x $1\frac{3}{4}$	41.65
$2\frac{1}{2}$ x $1\frac{1}{2}$	24.75	$2\frac{1}{2}$ x $2\frac{1}{2}$	39.65	$2\frac{1}{2}$ x $2\frac{1}{2}$	43.05	3 x 2	46.15
$2\frac{1}{2}$ x $1\frac{3}{4}$	27.55	3 x 1	24.20	3 x 1	25.90	3 x $2\frac{1}{4}$	50.90
$2\frac{1}{2}$ x 2	30.40	3 x $1\frac{1}{4}$	28.15	3 x $1\frac{1}{4}$	30.10	3 x $2\frac{1}{2}$	55.40
$2\frac{1}{2}$ x $2\frac{1}{4}$	33.20	3 x $1\frac{1}{2}$	31.80	3 x $1\frac{1}{2}$	34.30	3 x 3	64.70
$2\frac{1}{2}$ x $2\frac{1}{2}$	36.00	3 x $1\frac{3}{4}$	35.75	3 x $1\frac{3}{4}$	38.55	$3\frac{1}{2}$ x $1\frac{1}{4}$	37.15
3 x 1	22.50	3 x 2	39.40	3 x 2	42.75	$3\frac{1}{2}$ x $1\frac{1}{2}$	42.75
3 x $1\frac{1}{4}$	25.90	3 x $2\frac{1}{4}$	43.30	3 x $2\frac{1}{4}$	47.00	$3\frac{1}{2}$ x $1\frac{3}{4}$	48.10
3 x $1\frac{1}{2}$	29.25	3 x $2\frac{1}{2}$	47.00	3 x $2\frac{1}{2}$	51.20	$3\frac{1}{2}$ x 2	53.45
3 x $1\frac{3}{4}$	32.60	3 x 3	54.55	3 x 3	59.65	$3\frac{1}{2}$ x $2\frac{1}{4}$	58.80
3 x 2	36.00	$3\frac{1}{2}$ x 1	27.85	$3\frac{1}{2}$ x 1	29.80	$3\frac{1}{2}$ x $2\frac{1}{2}$	64.40
3 x $2\frac{1}{4}$	39.40	$3\frac{1}{2}$ x $1\frac{1}{4}$	32.35	$3\frac{1}{2}$ x $1\frac{1}{4}$	34.90	$3\frac{1}{2}$ x 3	75.10
3 x $2\frac{1}{2}$	42.75	$3\frac{1}{2}$ x $1\frac{1}{2}$	36.85	$3\frac{1}{2}$ x $1\frac{1}{2}$	39.65	$3\frac{1}{2}$ x $3\frac{1}{2}$	86.05
3 x 3	49.50	$3\frac{1}{2}$ x $1\frac{3}{4}$	41.05	$3\frac{1}{2}$ x $1\frac{3}{4}$	44.75	4 x $1\frac{1}{4}$	42.20
$3\frac{1}{2}$ x 1	25.90	$3\frac{1}{2}$ x 2	45.65	$3\frac{1}{2}$ x 2	49.50	4 x $1\frac{1}{2}$	48.40
$3\frac{1}{2}$ x $1\frac{1}{4}$	29.80	$3\frac{1}{2}$ x $2\frac{1}{4}$	50.05	$3\frac{1}{2}$ x $2\frac{1}{4}$	54.55	4 x $1\frac{3}{4}$	54.65
$3\frac{1}{2}$ x $1\frac{1}{2}$	33.75	$3\frac{1}{2}$ x $2\frac{1}{2}$	54.55	$3\frac{1}{2}$ x $2\frac{1}{2}$	59.35	4 x 2	60.75
$3\frac{1}{2}$ x $1\frac{3}{4}$	37.70	$3\frac{1}{2}$ x 3	63.30	$3\frac{1}{2}$ x 3	69.20	4 x $2\frac{1}{4}$	66.95
$3\frac{1}{2}$ x 2	41.65	$3\frac{1}{2}$ x $3\frac{1}{2}$	72.30	$3\frac{1}{2}$ x $3\frac{1}{2}$	79.05	4 x $2\frac{1}{2}$	73.15
$3\frac{1}{2}$ x $2\frac{1}{4}$	45.55	4 x 1	31.50	4 x 1	33.75	4 x 3	85.50
$3\frac{1}{2}$ x $2\frac{1}{2}$	49.50	4 x $1\frac{1}{4}$	36.55	4 x $1\frac{1}{4}$	39.40	4 x $3\frac{1}{2}$	97.90
$3\frac{1}{2}$ x 3	57.40	4 x $1\frac{1}{2}$	41.65	4 x $1\frac{1}{2}$	45.00	4 x 4	110.25
$3\frac{1}{2}$ x $3\frac{1}{2}$	65.25	4 x $1\frac{3}{4}$	46.70	4 x $1\frac{3}{4}$	50.65	$4\frac{1}{2}$ x $1\frac{1}{2}$	54.30
4 x 1	29.25	4 x 2	51.75	4 x 2	56.25	$4\frac{1}{2}$ x 2	68.05
4 x $1\frac{1}{4}$	33.75	4 x $2\frac{1}{4}$	56.80	4 x $2\frac{1}{4}$	61.90	$4\frac{1}{2}$ x $2\frac{1}{2}$	82.15
4 x $1\frac{1}{2}$	38.25	4 x $2\frac{1}{2}$	61.90	4 x $2\frac{1}{2}$	67.50	$4\frac{1}{2}$ x 3	95.90
4 x $1\frac{3}{4}$	42.75	4 x 3	73.00	4 x 3	78.75	$4\frac{1}{2}$ x $3\frac{1}{2}$	110.00
4 x 2	47.25	4 x $3\frac{1}{2}$	82.15	4 x $3\frac{1}{2}$	90.00	$4\frac{1}{2}$ x 4	123.75
4 x $2\frac{1}{4}$	51.75	4 x 4	92.25	4 x 4	101.25	5 x $1\frac{1}{2}$	59.90
4 x $2\frac{1}{2}$	56.25	$4\frac{1}{2}$ x 1	35.15	$4\frac{1}{2}$ x 1	37.70	5 x 2	75.40
4 x 3	65.25	$4\frac{1}{2}$ x $1\frac{1}{2}$	46.70	$4\frac{1}{2}$ x $1\frac{1}{2}$	50.35	5 x $2\frac{1}{2}$	90.85
4 x $3\frac{1}{2}$	74.25	$4\frac{1}{2}$ x 2	57.95	$4\frac{1}{2}$ x 2	63.00	5 x 3	106.30
4 x 4	83.25	$4\frac{1}{2}$ x $2\frac{1}{2}$	69.50	$4\frac{1}{2}$ x $2\frac{1}{2}$	75.65	5 x $3\frac{1}{2}$	121.80
$4\frac{1}{2}$ x 1	32.65	$4\frac{1}{2}$ x 3	80.75	$4\frac{1}{2}$ x 3	88.30	5 x 4	137.25
$4\frac{1}{2}$ x $1\frac{1}{2}$	42.75	$4\frac{1}{2}$ x $3\frac{1}{2}$	92.25	$4\frac{1}{2}$ x $3\frac{1}{2}$	101.00	.....	.....
$4\frac{1}{2}$ x 2	52.90	$4\frac{1}{2}$ x 4	103.50	$4\frac{1}{2}$ x 4	113.65	.....	.....
$4\frac{1}{2}$ x $2\frac{1}{2}$	63.00	5 x 1	38.80	5 x 1	41.65	.....	.....
$4\frac{1}{2}$ x 3	73.15	5 x $1\frac{1}{2}$	51.50	5 x $1\frac{1}{2}$	55.70	.....	.....
$4\frac{1}{2}$ x $3\frac{1}{2}$	83.25	5 x 2	64.15	5 x 2	69.75	.....	.....
$4\frac{1}{2}$ x 4	93.35	5 x $2\frac{1}{2}$	76.80	5 x $2\frac{1}{2}$	83.80	.....	.....
5 x 1	36.00	5 x 3	89.45	5 x 3	97.90	.....	.....
5 x $1\frac{1}{2}$	47.25	5 x $3\frac{1}{2}$	102.10	5 x $3\frac{1}{2}$	111.95	.....	.....
5 x 2	58.50	5 x 4	114.75	5 x 4	126.00	.....	.....
5 x $2\frac{1}{2}$	69.75	.....	.....	.....	.....	.....	.....
5 x 3	81.00	.....	.....	.....	.....	.....	.....
5 x $3\frac{1}{2}$	92.25	.....	.....	.....	.....	.....	.....
5 x 4	103.50	.....	.....	.....	.....	.....	.....



## CANADIAN CROCKER-WHEELER POWER TRANSFORMERS



Transformer Installation

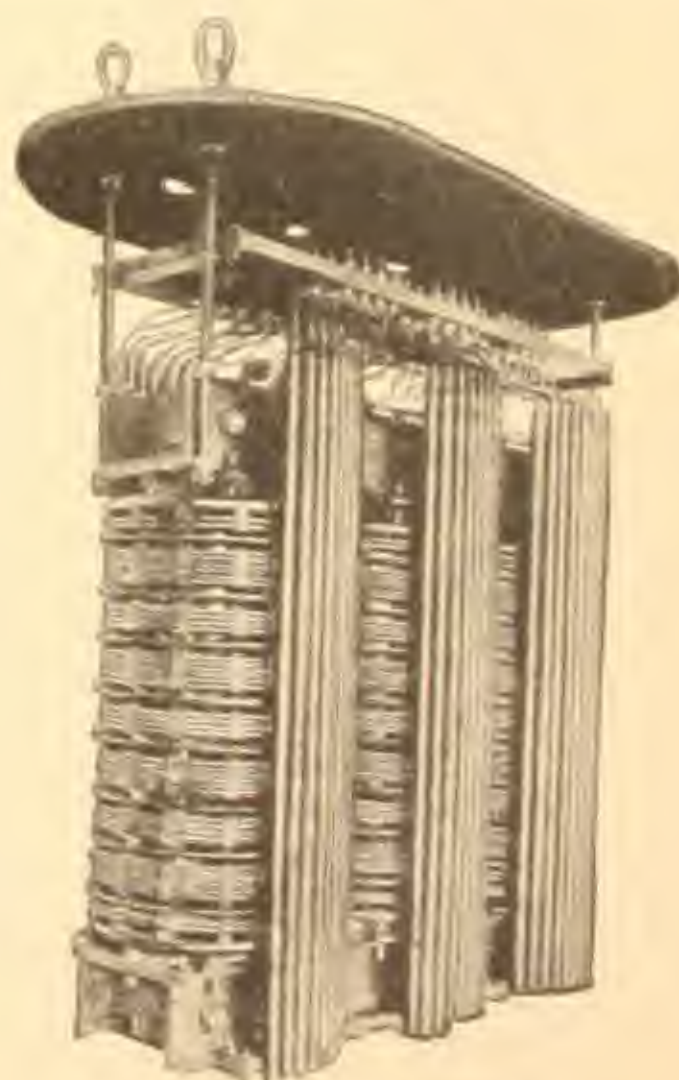
The above illustration shows installation of two 2000 K. V. A. 12100-volt primary three-phase, 63 cycles, water cooled transformers equipped with chloride breathers, furnished by the Northern Electric Company. The photograph was taken before the installation was quite completed. This is typical of recent type three-phase, water cooled transformers of moderate voltage.

Canadian Crocker-Wheeler Transformers have been developed in a extensive range of types and sizes and combine high efficiency and great durability. Rating up to 4000 K. V. A. single-phase and 4500 K. V. A. three-phase have been built and the range is constantly being extended.

These transformers are made in both oil cooled and water cooled types and in both core type and shell type designs. In both types the coils are very carefully made and insulated and well braced to withstand strains. Ample space for good oil circulation is provided. The tanks are thoroughly oil tight.



Exterior View of 1200 K. V. A Single-phase Transformer



Transformer Coils

Size  
K. V. A.  
1  
2  
3  
5

Other volt  
demand are ma

Sizes 30 K

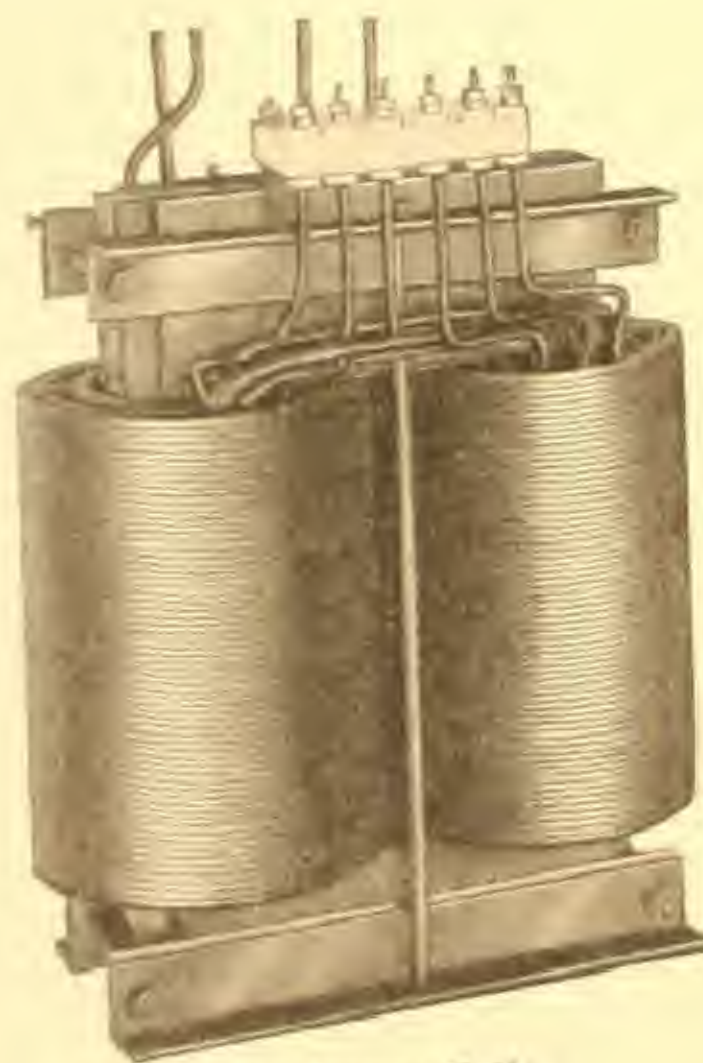


# CANADIAN CROCKER-WHEELER TRANSFORMERS



A Typical Group of Standard Service Transformers

This standard line of single-phase service or distributing transformers embodies very efficient electrical design and good mechanical construction. Sizes as listed below are furnished for either 60-cycle or 25-cycle service. Standard primary voltages are 2200 or 1100 volts and secondary voltages, 110/220 volts or 440 volts or 550 volts as required.



Transformer Coils

Size K. V. A.	Size K. V. A.	Size K. V. A.	Size K. V. A.
1	7 1/2	25	75
2	10	30	100
3	15	40	...
5	20	50	...

Other voltages and special ratings may be furnished. Stocks of ratings in most frequent demand are maintained at Branch Houses. Necessary oil is provided with all transformers.

Sizes 50 K. V. A. and under are equipped with hanger and cut-outs.



## PRIMARY CUT-OUTS AND SWITCHES



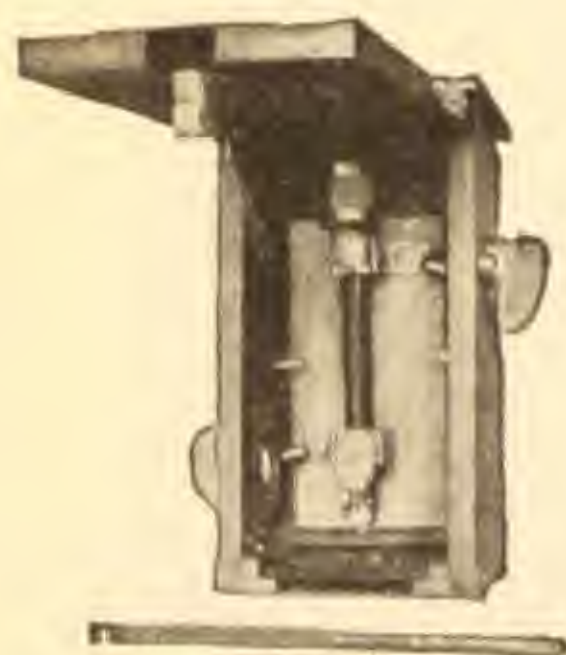
No. 137



No. 1016



Fuswitch, Closed View



Fuswitch, Open View

## P &amp; S TRANSFORMER CUT-OUTS

Single-pole—30 Amperes, 2500 Volts

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
42272	137	Black glaze finish, complete with plug and lag screws.....	30	210	\$1.75
202411	137C	Case only.....	30	150	1.22
42273	139½	Black glaze finish, complete with plug and lag screws.....	30	195	1.75
202412	139½C	Case only.....	30	130	1.22
043257	138	Plug only, for No. 137.....	10	22	.63
043258	141	Plug only, for No. 139½.....	10	22	.63

The plug of No. 139½ cut-out engages contact with a right turn, making it impossible for plug to pull out accidentally. Strain relief ears save extra insulators.

## SQUARE D TRANSFORMER CUT-OUTS

30 AMPERES, SINGLE-POLE, 2500 VOLTS

Brown Glaze Finish

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
202409	1016	Complete with plug and mounting screws.....	50	4½	\$1.80
202410	....	Plug only.....	50	1¼	.50

Contact is made on the above plugs by inserting and turning slightly to the right. When full contact is made, it is impossible for plugs to fall out.

## MATTHEWS FUSWITCHES

Type CG

When wires become short-circuited, a Matthews Fuswitch protecting the wire is designed to open the circuit in trouble by the fuse melting from overload, drilling the section short-circuited. Matthews Fuswitches combine in one device the fuse block and the primary line disconnecting switch. The door is so arranged that it can be used for right or left installation.

Type CG has a composition top which makes it absolutely impervious to weather conditions.

Trade No.	For Voltage	Max. Amps.	Shipping Wt., Lbs.	Price		
				Less than 12	12 to 24	25 or More
42271	{ 6600 or less	{ 100 or less	25	\$28.00	\$26.00	\$24.00

Extra fuse blades for the Type CG cost \$9.00 each.

Type CG Matthews Fuswitch takes the place of what were formerly known as Types A, B, F, BF and H.

The above prices include fuse cartridge, hanger, insulators and fuse wire for one charge. Specify amperes of fuse desired.

Extra fuses for Type CG-3 to 100 amperes, 6 cents each.

WESTI



Constant-Regulating Transformer

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60 or 25-cycle  
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Trade No.

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125008  
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## WESTINGHOUSE CONSTANT CURRENT REGULATORS

FOR SERIES MAZDA STREET LIGHTING

### CONSTANT-CURRENT REGULATOR SYSTEMS

In the regulator system, the series of lamps is supplied from a constant-current regulating transformer. This automatically controls the current and voltage of the circuit, and maintains a constant current regardless of the number of lamps burning. When a lamp burns out, a film cut-out device, located in the street hood, short-circuits the lamp, and thus maintains the continuity of the circuit. The receptacle is so constructed that the series socket and lamp can be removed or the lamp can be unscrewed at any time without opening the circuit.



Constant-current  
Regulating Transformer

### CONSTANT-CURRENT REGULATING TRANSFORMERS

Designed to supply constant current to alternating current series lighting systems from constant potential alternating current circuits.

Enclosed carbon arc lamps may be operated from these regulators when equipped with a dashpot. A Westinghouse 6.6 or 7.5-ampere enclosed carbon arc lamp, adjusted in accordance with its specifications, requires .62 or .70 kva. respectively of regulator capacity for its operation.

Each regulator is protected by a cage of expanded sheet steel. This guards against mechanical injury and at the same time affords thorough ventilation for the primary and secondary coil. The

cage can be quickly and easily removed, if for any reason it is desirable to inspect the regulator or to dismantle it for cleaning or adjustment.

These regulators will maintain the lamp current within 2 per cent of the normal for any load, and will supply a lamp load equal to their rated kilovolt-ampere capacity plus a 5 per cent ohmic and 10 per cent reactive line loss. The standard regulators are built for nominal 2200-volt, 60 or 25-cycle circuits, and are supplied with primary taps for 2400, 2200 and 2000 volts. Special coils for other primary voltages will be furnished on order. The standard capacities and secondary currents are given in the following table.

Some of the regulators listed are arranged to operate two inter-connected circuits, each circuit being loaded to approximately one-half the capacity of the regulator. All other sizes are arranged to operate a single circuit of lamps but two circuits can be operated from the single-circuit regulators by the use of a two-circuit panel.

**SECONDARY TAPS.**—Taps are provided in the secondary coil for 80 and 90 per cent of full load. These taps may be used when operating at less than full load to obtain higher primary power factor.

The regulators are not quite as sensitive when the secondary taps are used as when the entire winding is used.

### REGULATING TRANSFORMERS FOR 2200 VOLTS, 60-CYCLE PRIMARY AND 6.6-AMPERE SECONDARY CIRCUITS

Trade No.	Mfrs. No.	Capacity K. V. A.	APPROXIMATE		Price Each
			WEIGHT Net	POUNDS Ship	
		4	480	725	\$520.00
125093	200599	8	685	985	600.00
125094	200602	12	850	1200	700.00
125095	200605	17	1000	1350	800.00
125096	200608	24	1250	1650	950.00
125097	200611	34	1350	1750	1200.00
125098	200614	*50	1800	2200	1500.00
125099	236673	*68	2200	2600	1800.00
125100	236674				

For a transformer equipped with dash pot, add \$15.00 to list price.

\*A current transformer is required for an ammeter in the secondary circuits.

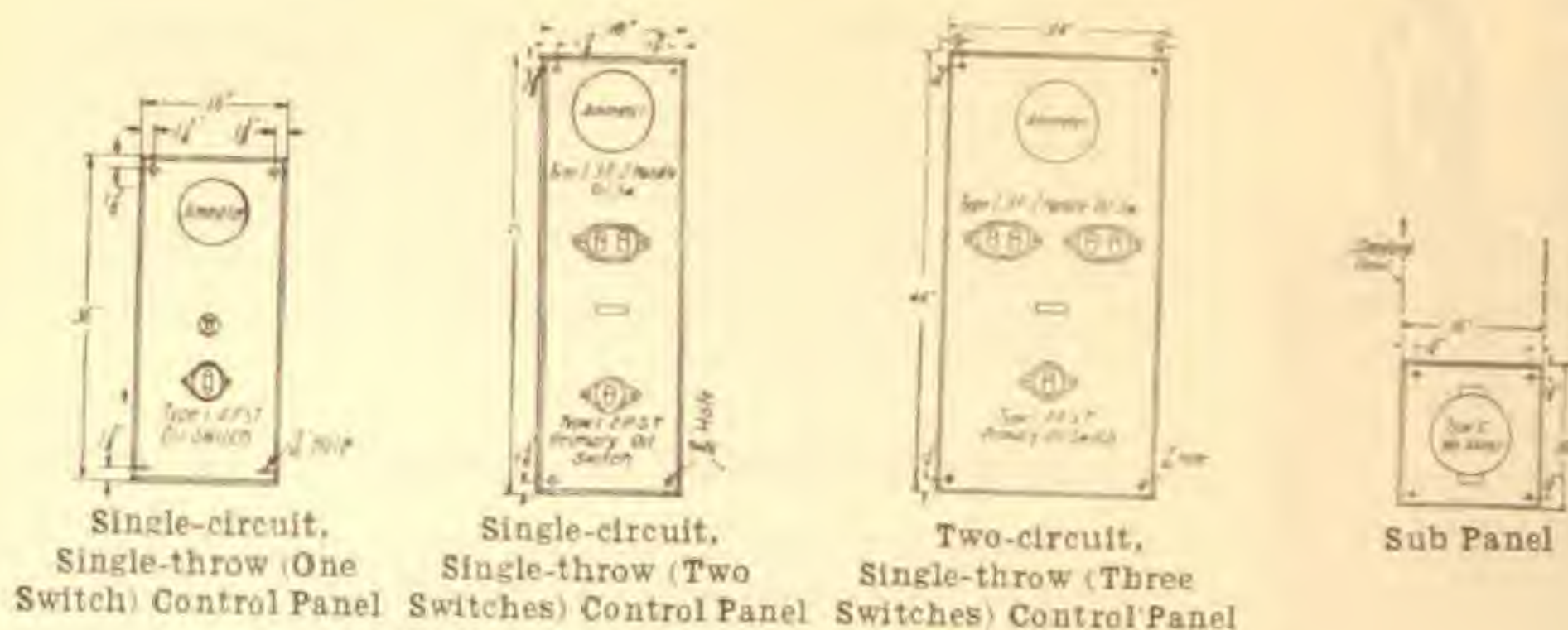
Transformers for other voltages frequencies or currents can be furnished on order.



## WESTINGHOUSE CONTROL PANELS

FOR SERIES MAZDA STREET LIGHTING

FOR CONSTANT-CURRENT REGULATOR SYSTEM



One-switch panel is  $1\frac{1}{4}$  inches thick and has  $\frac{3}{4}$ -inch bevel. Two-switch and Three-switch panels are  $1\frac{1}{2}$  inches and have  $\frac{3}{8}$ -inch bevel.

Width of sub-panel is 16 or 24 inches and thickness  $1\frac{1}{4}$  or  $1\frac{1}{2}$  inches to match control panel. These dimensions are for reference only. For official dimensions apply to the nearest district office.

## CONTROL PANELS

Control panels of black-marine-finished slate mounted on pipe frame work are furnished. The standard panel for single-circuit, constant-current regulators, is 16 inches by 36 inches and has mounted on it:

- One four-pole single-throw type I non-automatic oil circuit-breaker, which, with one operation, connects both the primary and secondary coils to their respective circuits.
- One alternating-current high-voltage type SR ammeter.
- One double-pole fuse block, (2 single-pole fuse blocks on high-capacity).
- Four enclosed fuses (two extra ones) mounted on the back and connected in the primary circuit. Where the working voltage of the regulator to be controlled exceeds 4000 volts, a current transformer (type KA) for the ammeter, which is connected in the secondary circuit, is furnished complete with mounting brackets.

Sub-panels for watt-hour meters can be supplied for any of the standard panels. These sub-panels are black-marine-finished slate, 16 inches high, mounted on the same frame as the standard panel and directly under it. Apparatus mounted thereon consists of:

- One type C watt-hour meter.
- One voltage transformer.
- One current transformer.
- One double-pole fuse block with four fuses (two extra) for the voltage transformer.

## REGULATOR CONTROL PANELS

Trade No.	Description	Ship. Wt., Lbs.	Price Each
71014	Single-circuit, single-throw (1 switch) panel for 4, 8, 12, 17 and 24-K. V. A. regulators.	300	\$125.00
71009	Single-circuit, single-throw (2 switches) panel for 4, 8, 12, 17 and 24-K. V. A. regulators.	350	150.00
71011	Two-circuit, single-throw (3 switches) panel for 34, 50 and 68-K. V. A. regulators.	450	200.00
71013	Sub-panel for any standard panel complete with necessary watt-hour meter, current, voltage transformers, fuse blocks, and fuses.	150	150.00
71015	Double-throw panels, add to above two-switch and three-switch single-throw panels.		50.00
71016	Current transformer and mounting bracket for a panel when operated on regulators of higher voltage than 4000 volts.		50.00

WEST



Transformer

The adjust terminals of a transformer of each size on the regulator connect the lamps having taps for

The transformer within 1 per cent transformer rise

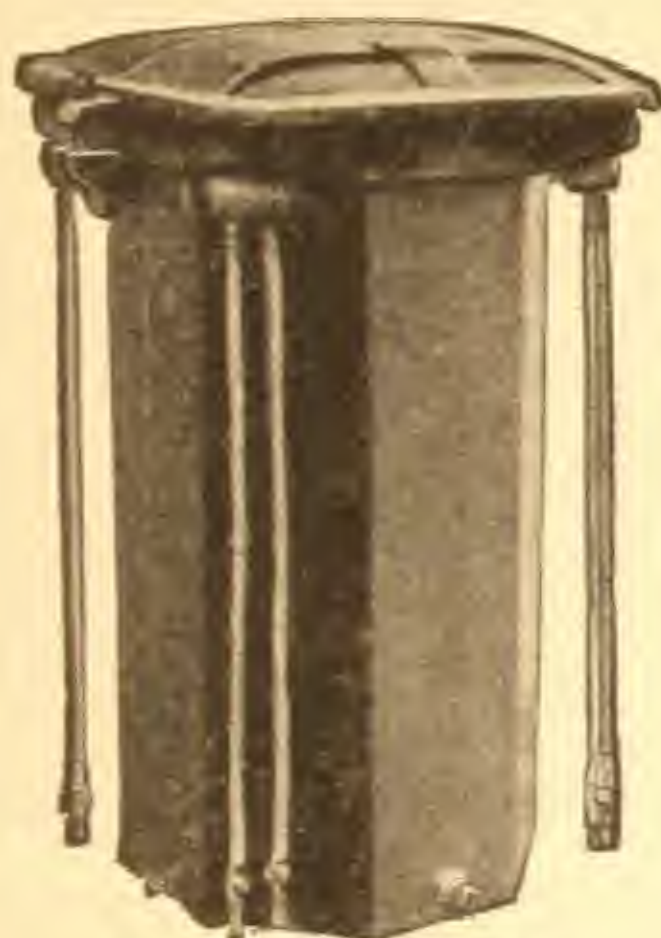
As the lamp rise over 2 per cent out.

Transformer

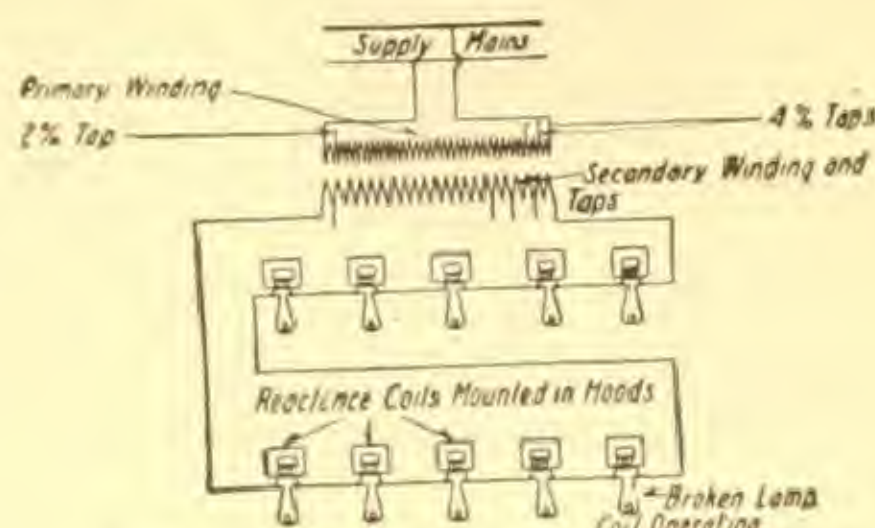
Trade No.	
140919	27
140920	27
140921	27
140922	27
140923	27
140924	27
140925	27
140926	27



## WESTINGHOUSE ADJUSTER SOCKET SYSTEMS



Transformer for Adjuster Socket System



Adjuster Socket System Showing Operation of Reactance Coils to Replace Lamps

The adjuster socket system consists of a simple series of lamps connected across the secondary terminals of a constant-potential transformer. A reactance coil is connected in shunt across the terminals of each lamp and operates to maintain the continuity of the circuit and the normal voltage on the remaining lamps in case any lamp burns out or is removed. While it is possible to connect the lamps in series directly across the main, it is always advisable to provide a transformer having taps for a close adjustment of the voltage required.

The transformers listed below are provided with taps to enable any voltage to be obtained within 1 per cent of that required by the circuit. All taps are brought to terminal blocks inside the transformer case and no solder connections need to be made in changing these taps.

As the lamps go out and the reactance coils take their place in the circuit, the current will never rise over 2 per cent above normal, this point being reached with from 10 to 15 per cent of the lamps out.

### TRANSFORMERS FOR ADJUSTER SOCKET SYSTEM

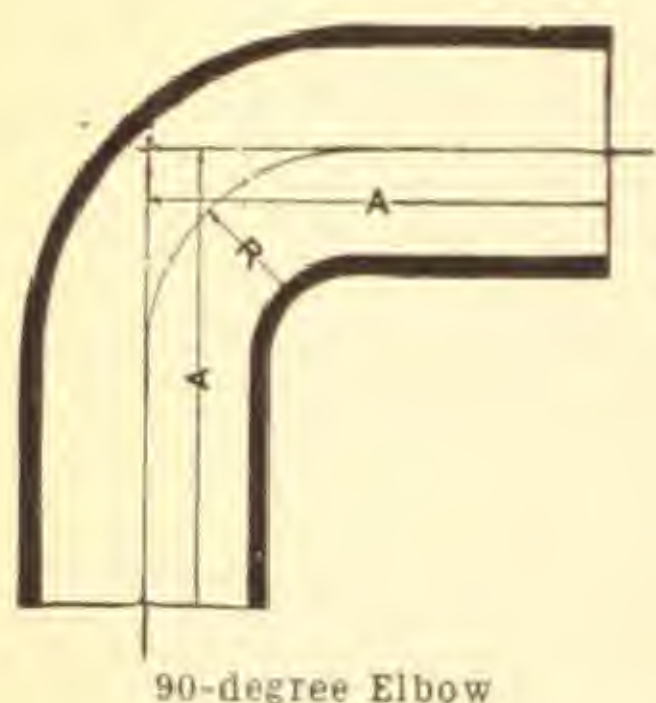
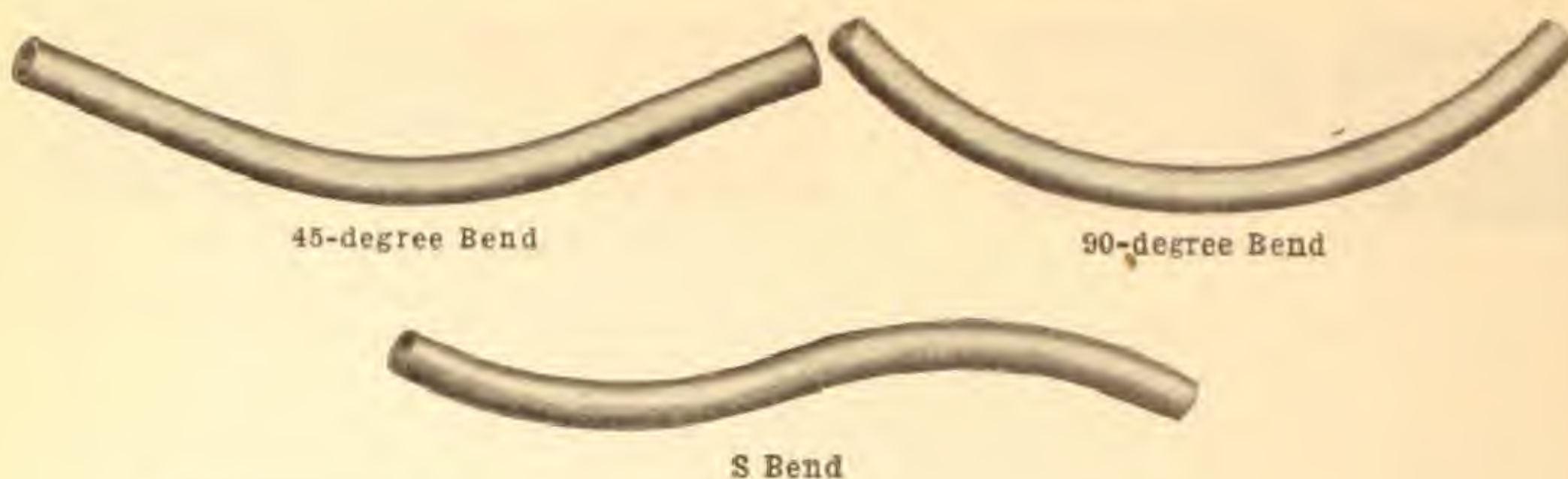
For 2200-volt, 60-cycle Primary; 6.6 Ampere Secondary

Transformers for other voltages, frequencies and currents can be furnished on order.

Trade No.	Mfrs. No.	Cap. K-v-a.	SECONDARY VOLTAGE Minimum	Maximum	Gallons Oil	Mfrs. No. Hangers	Approx. Ship. Wt. Lbs.	Price Each
140919	275188	1	81	151	$\frac{3}{4}$	109712	106	\$85.00
140920	275189	2	170	303	$1\frac{3}{4}$	109712	165	110.00
140921	275190	3	252	454	$1\frac{3}{4}$	109712	193	130.00
140922	275191	5	416	756	$2\frac{1}{2}$	109712	230	160.00
140923	275192	7.5	625	1138	4	109713	315	210.00
140924	275193	10	835	1515	5	109713	394	235.00
140925	275194	15	1250	2270	8	109713	460	290.00
140926	275195	20	1670	3030	$14\frac{1}{2}$	234482	715	360.00



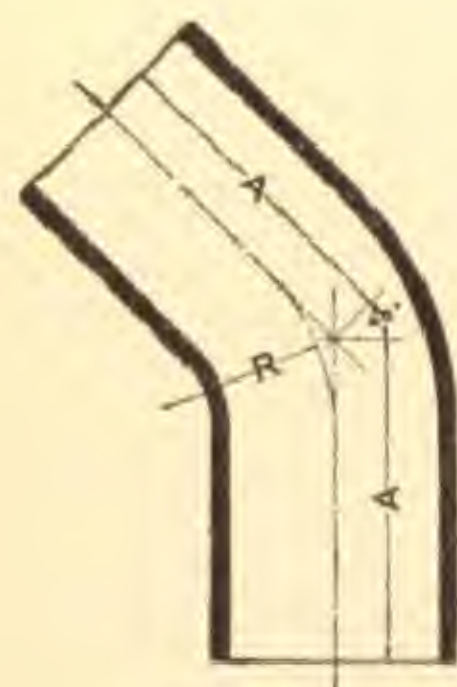
## AMERICAN FIBRE CONDUIT



## DIMENSIONS OF STANDARD BENDS

Inside Dimensions Inches	Length Feet	45 and 90-degree Bends	S Bends Offset Inches	Radius Inches
		Radius, Inches		
2	5	18-24-36	20	36
2½	5	24-36	20	36
3	5	36	20	36
3½	5	36	20	36
4	5	36	20	36

## DIMENSIONS OF FITTINGS



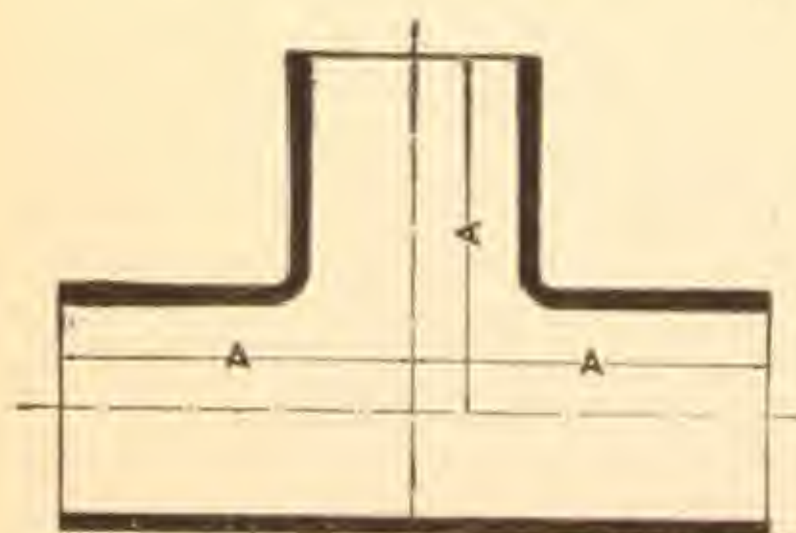
## 90-degree Elbows

DIMENS., Inside	INCHES Outside	Radius Inches	A	DIMENS., Inside	INCHES Outside	Radius Inches	A
2	2½	2½	6	3½	4	3	7
2½	3	2½	6½	4	4½	3½	7½
3	3½	3	6½	...	...	...	...

## 45-degree Elbow

## 45-degree Elbows

DIMENS., Inside	INCHES Outside	Radius Inches	A	DIMENS., Inside	INCHES Outside	Radius Inches	A
2	2½	2½	4¾	3½	4	3	4¾
2½	3	2½	4½	4	4½	3½	5¼
3	3½	3	4½	...	...	...	...



## Tee

## Tees

DIMENSIONS, Inside	INCHES Outside	A	DIMENSIONS, Inside	INCHES Outside	A
2	2½	4½	3½	4	6
2½	3	4¾	4	4½	6½
3	3½	5	...	...	...



## WESTINGHOUSE SAFETY COILS

FOR INDOOR AND OUTDOOR SERVICE ON SERIES A. C. CIRCUITS



Fig. 1—Rear View of Type SK Showing Method of Attaching Hanger Irons



Fig. 2—Type MA



Fig. 3



Fig. 4



Fig. 5

Type SK coils are equipped with No. 109713 hanger irons. The 5 Kva. size are supplied with 8 gallons of oil; the 10Kva size with 11½ gallons of oil.

Mfrs. No. and price include safety coil and, for the oil insulated, the necessary oil and hanger irons for pole mounting.

It is often desirable to make an installation of lamps where the potential of the series arc or incandescent circuit—the only circuit available—is too high for the application in question and the cost of running a multiple circuit from the central station would be prohibitive. Westinghouse Safety Coils are the economical solution. They are especially useful on installations as follows:

1.—Where a series lighting system is desirable but high potentials are impracticable:

- a. On side streets or alleys where to run the main series circuit would require a new pole line. The comparatively low-voltage safety-coil circuit can often be run on an existing telephone pole lines.
- b. On bridges and in subways where the high potential of the regular series circuit is prohibitive.
- c. For lighting of fire-alarm, police and letter boxes, where high potentials so near the ground would be dangerous.

2.—Where a few lamps are wanted in a building and a multiple circuit is not available.

3.—Where large lamps of high current must be operated from high-voltage series circuits such as white-way post and pendant fixtures on mast arms having long loops.

Operation.—The primary of these coils is connected in the regular series circuit, the secondary then supplying the lower-potential series circuit. Regular series lighting fixtures (such as those with film cut-outs) should be used, except where the secondary load voltage does not exceed 200 in which case the puncturing of films is unreliable and multiple sockets may be used.

FOR 6.6 AMPERE CIRCUITS, LINE VOLTAGE  
OF 6600

In Terne-Plate Case (Gum Filled)

Trade No.	Mfrs. No.	Cap. Kva.	Fig. No.	Sec- ondary Amps	Max. Sec- ondary Volts	Wt., Net	Lbs. Ship	Price Each
172237	242382	.075	3	6.6	11	18	38	\$22.00
172238	242384	.450	3	6.6	68	28	48	33.00
172239	242376	.230	3	15	15.3	20	40	25.00
172240	242378	.310	3	20	15.5	28	48	31.00
172243	242380	.518	3	20	25.9	30	50	35.00
172244	242381	.075	4	6.6	11	18	38	22.00
172245	242383	.450	4	6.6	68	28	48	33.00
172246	242375	.230	4	15	15.3	20	40	25.00
172247	242377	.310	4	20	15.5	28	48	31.00
172248	242379	.518	4	20	25.9	30	50	35.00
172249	245648	.075	5	6.6	11	18	38	22.00
172250	245649	.450	5	6.6	68	28	48	33.00
172251	245645	.230	5	15	15.3	20	40	25.00
172252	245646	.310	5	20	15.5	28	48	31.00
172253	245647	.518	5	20	25.9	30	50	35.00
Type MA (Dry Type)								
172254	249428	1.00	2	6.6	152	56	65	59.40
172255	249430	2.00	2	6.6	304	93	110	86.50
Type SK (Oil Insulated)								
172256	249433	5.0	1	6.6	760	230	333	220.00
172257	249435	10.0	1	6.6	1520	346	508	282.00

WESTINGH

Transfo

Trade No.	Mfrs. No.
206475	275190
206476	275191
206477	275192
206478	275193
206479	275194
206480	275195

Trade No.	Mfrs. No.
206481	275190
206482	275191
206483	275192
206484	275193
206485	275194
206486	275195

Transformer

For use in ex  
Reactance Coil P

Trade No.	Mfrs. No.
144024	24
144025	24
144026	24

Mfrs. No. in  
and the necessar  
in the list price.\*Mfrs. No. 2  
required.



# WESTINGHOUSE REACTANCE COIL REGULATOR OUTFITS

FOR MAZDA STREET SERIES LAMPS



Transformer

The reactance coil regulator is particularly useful on circuits which are remote from stations where apparatus can be housed. The outfits are especially designed for service where pole mounting and operation with a time switch is desirable. This simplifies the circuit construction and thus reduces the expense of serving outlying towns which may have constant potential feeder service for residence lighting, but for street lighting have nothing available except multiple lamps or long special series circuits from larger existing installations. They are used with the inexpensive and well known film-cut-out streethoods, no change being required in these devices.



Reactance Coil

## REACTANCE COIL REGULATOR OUTFITS

FOR 2200-VOLT 60-CYCLE PRIMARY; 6.6 AMPERE SECONDARY

Rated on 80 Per Cent Power Factor

Trade No.	TRANSFORMER				REACTANCE COIL				Max. Kw. Mazda Lamps	Total Ship. Wt., Lbs.	Price Each
	Mfrs. No.	Range of Volts	Mfrs. No. Hanger Irons	Gal. Oil	Mfrs. No.	Required Volts	Mfrs. No. Hanger Irons	Gal. Oil			
206475	275190	252-454	109712	1 3/4	240793	275	109713	8	2.4	310	\$230.00
206476	275191	416-756	109712	2 1/2	240793	455	109713	8	4.0	346	260.00
206477	275192	625-1138	109713	4	240794	685	109713	8	6.0	665	410.00
206478	275193	835-1515	109713	5	240794	910	109713	8	8.0	744	435.00
206479	275194	1250-2270	109713	8	246447	1365	109713	11 1/2	12.0	990	620.00
206480	275195	1670-3030	234482	14 1/2	246447	1820	109713	11 1/2	16.0	1245	690.00

Rated on 50 Per Cent Power Factor

206481	275190	252-454	109712	1 3/4	240793	395	109713	8	1.5	310	230.00
206482	275191	416-756	109712	2 1/2	240794	655	109713	8	2.5	580	360.00
206483	275192	625-1138	109713	4	240794	985	109713	8	3.75	665	410.00
206484	275193	835-1515	109713	5	240794	1310	109713	8	5.0	744	435.00
206485	275194	1250-2270	109713	8	246447	1970	109713	11 1/2	7.5	990	620.00
206486	275195	1670-3030	234482	14 1/2	246447	2600	109713	11 1/2	10.0	1245	690.00

Transformers for other voltages, frequencies and currents can be furnished on request.

## REACTANCE COILS

For 60-cycle, 6.6 Ampere Series Film-Cut-out Circuits

For use in connection with Adjuster Socket Transformers listed on another page to make up Reactance Coil Regulator Outfits as listed above.

Trade No.	Mfrs. No. Coil	Maximum Kva.	Maximum Volts	Gallons Oil	Mfrs. No. Hanger Irons	Approx. Ship. Wt., Lbs.	Price Each
144024	240793	4.0	600	8	109713	116	\$100.00
144025	240794	8.5	1290	11 1/2	109713	350	200.00
144026	246447	17.2	2600		109713	530	330.00

Mfrs. No. includes reactance coil only. Price includes reactance coil, one pair of hanger irons and the necessary oil. When ordering, specify by Mfrs. No. and description all items included in the list price.

\*Mfrs. No. 240793 is gum filled and is mounted by lag screws. No oil or hanger irons are required.

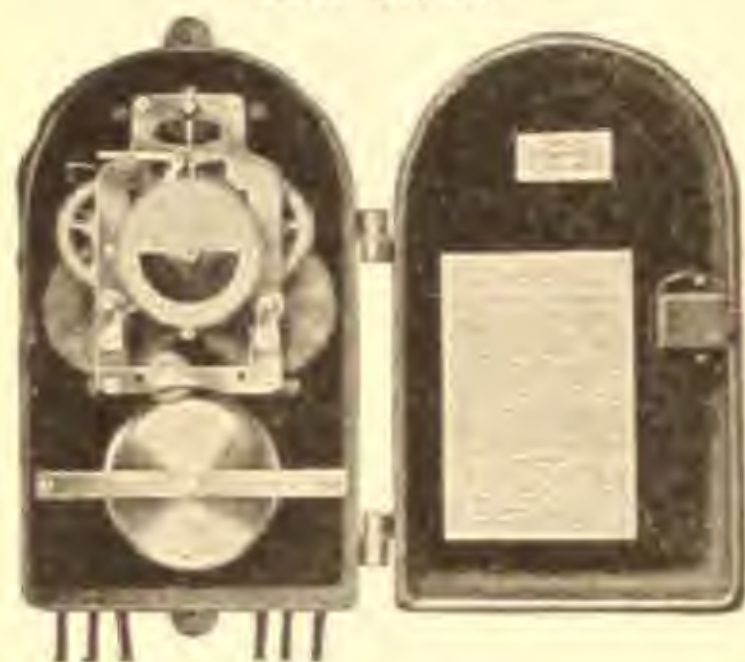


## HARTFORD AUTOMATIC TIME SWITCHES

250 VOLTS



Door Closed



10 to 50 Amperes  
Single and Double-pole  
10 to 35 Amperes  
Triple-pole  
12x7½x3 Inches  
Weatherproof Case with  
Rubber Gasket



75 to 200 Amperes  
Single and Double-pole  
50 to 200 Amperes  
Triple-pole  
19½x9½x7½ Inches

The Hartford Automatic Time Switch is a device by which electric current is automatically turned on and off at such predetermined time as the user desires, with no further attention than the weekly winding. It consists of a high grade Marine Clock and a standard electric switch so arranged that each, in its operation, is independent of the other. This permits perfect regulation of the clock and insures accuracy of operation as the clock has no work to perform other than its proper function of keeping time. The mechanism is enclosed in a dustproof and weatherproof japanned cast iron case, locking with sub-treasury lock.

Type B throws the switch on and off daily seven days per week at the hours for which it is set. It is provided with a cut-out by which the clock can be disconnected, allowing the clock to operate without throwing the switch. It also has a hand trip by which the switch can be operated without disturbing the clock.

Type C has a device by which the clock and switch are automatically disconnected one day in each week. While designed to omit the switch operation on Sunday, it can be set to disconnect on any day desired. It is also provided with hand trip for operating the switch.

Type D is similar to Type B, but is arranged to throw the switch on and off for two periods each day. This switch was designed especially to attract the attention of theatre patrons before and after the performance and save current in the interim.

Type E is designed for use in connection with two-rate meter service, automatically cutting from one meter to another at time desired.

Type G is designed to control apartment house hall lighting. It is so arranged that it will throw on the full number of lights in early evening and later throws these off, at the same time throwing on a series of a few night lights, throwing the second series off at dawn.

TYPE B				TYPE C				TYPE D			
Cap. Amps.	No. of Poles	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
10	1	040371	\$30.00	040389	\$33.00	040407	\$33.00				
10	2	040372	30.00	040390	33.00	040408	33.00				
10	3	040373	32.00	040391	35.00	040409	35.00				
20	1	040374	33.00	040392	36.00	040410	36.00				
20	2	040375	33.00	040393	36.00	040411	36.00				
20	3	040376	35.00	040394	38.00	040412	38.00				
35	1	040377	36.00	040395	39.00	040343	39.00				
35	2	040378	36.00	040396	39.00	040344	39.00				
35	3	040379	38.00	040397	41.00	040345	41.00				
50	1	040380	40.00	040398	43.00	040346	43.00				
50	2	040381	40.00	040399	43.00	040347	43.00				
50	3	040382	54.00								
100	1	040383	73.00								
100	2	040384	73.00								
100	3	040385	78.00								
200	1	040386	95.00								
200	2	040387	95.00								
200	3	040388	100.00								

TYPE E						
Trade No.	Cap. Amps.	No. of Poles	Price Each	Trade No.	Cap. Amps.	No. of Poles
040355	10	1	\$32.00	040359	35	1
040357	20	1	35.00			

TYPE G						
040362	10	2	32.00	53147	35	2
						50.00



## ANDERSON AUTOMATIC TIME SWITCHES

Anderson Automatic Time Switches are in general use for controlling electric circuits at predetermined times of the day or night with absolute precision.

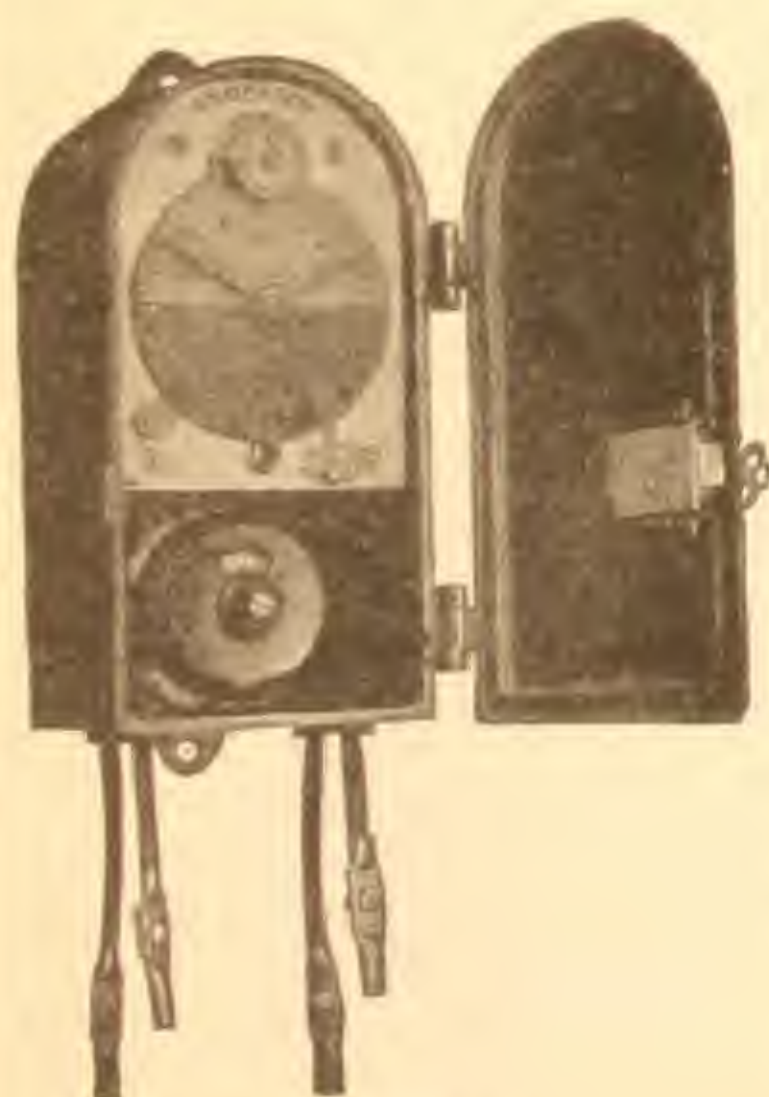
For controlling lights illuminating window displays, street lighting circuits and electric signs, the Anderson Time Switches are to be depended upon owing to their design and construction which is of the very highest grade.



Type F



Type L



Type P

### TYPE F—DOUBLE-POLE, SINGLE-THROW, 250 VOLTS

Trade No.	Mfrs. No.	Cap. Amps.	DIMENSIONS, INCHES			Ship. Wt., Lbs.	Price Each
			Length	Width	Depth		
57532	11000	30	17½	5¾	4½	50	\$72.00
57533	11001	60	17½	5¾	4½	50	80.00
57535	11003	100	20	8½	5½	85	300.00
57536	11004	200	27½	12	8	130	400.00

Type F switch can be furnished with cut-out to omit operation during Sunday or on a holiday.

Add \$6.00 to list prices for 30 and 60-ampere and \$10.00 to list prices for 100 and 200-ampere.

### TYPE L—DOUBLE OR TRIPLE-POLE, HIGH TENSION, OIL BREAK

This type of switch is constructed for handling alternating current up to and including 6600 volts, and is furnished either two or three-pole. It is an oil-break switch having the same high grade propelling mechanism and timepiece as used in all these time switches. Although primarily designed for constant potential circuits, this apparatus is also used extensively in connection with small constant current transforming apparatus where the lamps can safely be connected to the secondary coil of the transformer in its position of maximum voltage. The prices listed below are for complete apparatus, including oil chamber and sufficient oil to fill same to the working level.

For Potentials not Exceeding 3300 Volts								Price
Trade No.	Mfrs. No.	Cap. Amps.	No. of Poles	Length	Width	Depth	Ship. Wt., Lbs.	Each
57537	11039	25	2	20	10½	7¼	65	\$120.00
57538	11040	50	2	20	10½	7¼	65	130.00
57541	11043	25	3	20	14	10	75	144.00
57542	11044	50	3	20	14	10	75	160.00
For Potentials not Exceeding 6600 Volts								Price
57539	11080	25	2	20	11½	8	75	200.00
57540	11081	50	2	20	11½	8	75	220.00
57543	11084	25	3	21	15	10	90	240.00
57544	11085	50	3	21	15	10	90	270.00

### TYPE P—SINGLE OR DOUBLE-THROW

The growing demand for a durable, high-grade, rugged time switch of small current carrying capacity resulted in the design of this time switch.

The clock is of the lever type, high jeweled and is equipped with a non-magnetic hair spring and a split balance to compensate for changes in temperature. The pinions are tool steel, hardened and polished.

The complete mechanism is mounted in a substantial cast iron housing with hinged door, rubber gasketed and locked with a Yale lock. The switching device indicates whether current is on or off.

Single-throw								Price
Trade No.	Mfrs. No.	Cap. Type Amps.	No. of Poles	Length	Width	Depth	Ship. Wt., Lbs.	Each
57545	11090	PF 10	2	6	4¾	4	10	\$52.00
57546	11091	PG 10	3	6	4¾	4	10	58.00
57547	11092	PD 5	1	6	4¾	4	10	56.00
Double-throw; No Off Position								Price
57548	11093	PH 5	2	6	4¾	4	10	60.00
Single-pole, Double Branch								Price
57549	11106	PK 10	1	6	4¾	4	10	72.00
57550	11107	PK 10	1	6	4¾	4	10	72.00
57551	11108	PK 10	1	6	4¾	4	10	72.00



## ANDERSON CHARGING PLUGS AND RECEPTACLES



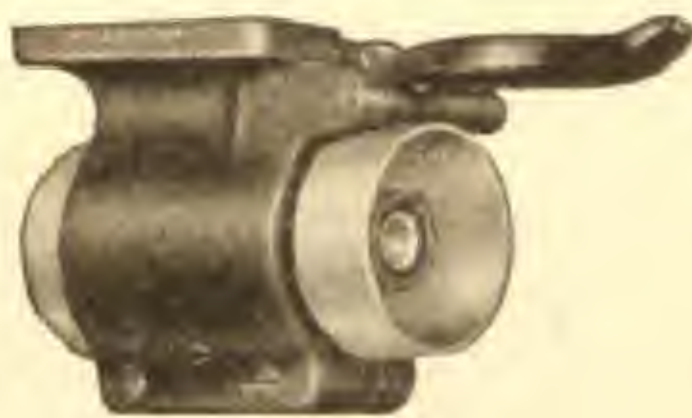
No. 1915



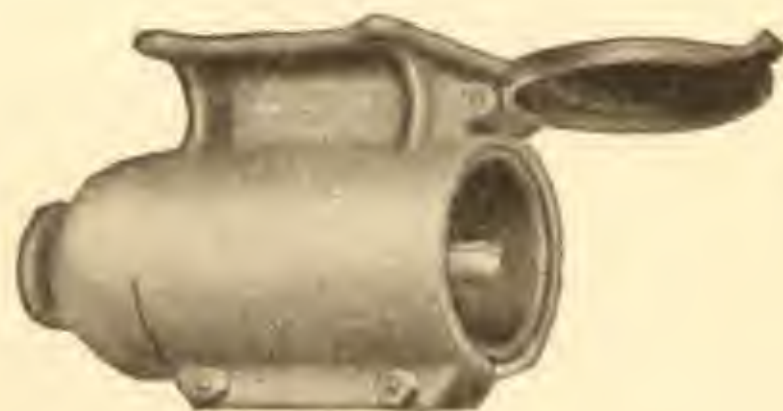
No. 1953



No. 1918



No. 1919



No. 1294



No. 1293

## TYPE N PLUGS

Double-pole—Capacity, 100 Amperes, 125 Volts

The Type N plug has a steel shell which fits closely into the cylindrical shell of the receptacle, thus providing a long supporting surface which takes all mechanical strain away from the current-carrying parts. It is equipped with a special cable clamp for preventing abrasion of the insulation on the cable. This clamp also takes the mechanical strain from the soldered joints at the terminals. Length over all,  $5\frac{5}{8}$  inches. Diameter of steel shell,  $1\frac{3}{4}$  inches.

Trade No.	Mfrs. No.	Description	Set Wt., lbs.	Price Each
78739	1915	Plug complete with cable clamp	$1\frac{5}{8}$	\$3.50
78740	1916	Cable clamp only, for plug	$\frac{1}{4}$	.40

Double-pole—Capacity, 150 Amperes, 125 Volts

This plug is of the same general design as the 100-amp. Type N, described above, differing mainly in the carrying capacity. It is equipped with removable lugs, permitting of easily making soldered connections. Length over all,  $10\frac{1}{4}$  inches. Diameter of steel shell,  $2\frac{1}{8}$  inches.

78741	1953	Plug complete with cable clamp	$4\frac{1}{2}$	5.50
78759	2045	Cable Clamp, only for plug	$\frac{1}{4}$	.80

## TYPE N RECEPTACLES

Double-pole—Capacity, 100 Amperes, 125 Volts

The receptacle proper is a seamless drawn steel shell, forming the housing for the current-carrying parts, which are insulated and held securely in position by a non-conducting compound of great heat-resisting properties. Made in several different forms of mounting.

## Receptacles without Mounting, Shell Threaded for Ball and Socket

Trade No.	Mfrs. No.	Cap. Amps.	Description	Set Wt., lbs.	Price Each
78745	1918	100	.....	1	\$3.50
78746	1944	150	.....	$2\frac{1}{2}$	5.20

## Receptacles for Switchboard Mounting, with Front and Rear Clamping Collars

78747	1960	100	.....	$1\frac{1}{4}$	9.00
78748	1961	150	.....	3	12.00

## Receptacles for Vehicle Mounting

78749	1919	100	Iron.....	$3\frac{1}{8}$	4.00
78750	1920	100	Aluminum.....	$1\frac{5}{8}$	4.50
78751	1945	150	Iron.....	$5\frac{1}{4}$	6.00
78752	1946	150	Aluminum.....	$3\frac{3}{8}$	7.00

## Clamps only, with Spring Lid, without Receptacles

78753	1923	100	Iron.....	2	1.00
78754	1924	100	Aluminum.....	$\frac{3}{4}$	1.50
78755	1947	150	Iron.....	$2\frac{3}{4}$	1.50
78756	1948	150	Aluminum.....	$\frac{7}{8}$	2.30

## TRAIL CAR COUPLER RECEPTACLES

The illustration shows a single-pole receptacle for car coupling up to 100 amperes at 600 volts, but is not intended for breaking live circuits.

78757	1294	100	Recep. comp. with spring lid	$7\frac{1}{2}$	9.00
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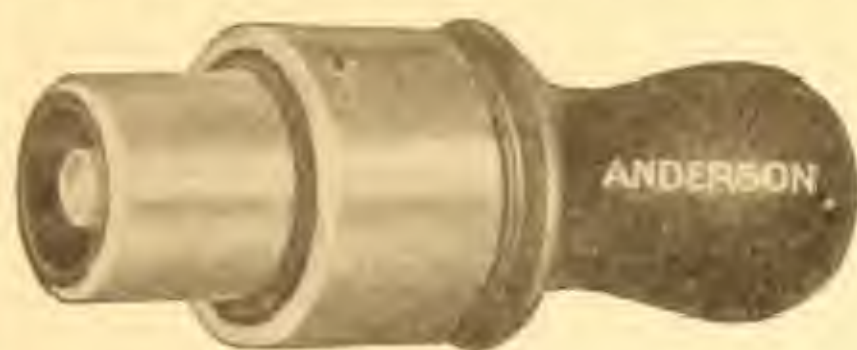
## TRAIL CAR COUPLER PLUGS

This plug is for use with receptacle shown above, and consists of an Aetna handle into which the current-carrying parts are embedded and securely fastened in such a manner as to prevent mechanical or electrical injury to same under operating conditions.

78758	1293	100	Plug complete....	$3\frac{3}{8}$	9.00
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## ANDERSON CHARGING PLUGS AND RECEPTACLES



No. 1289



No. 1209



No. 1569



No. 1825



No. 1826

The following line of charging plugs and receptacles are adapted for charging storage batteries on electric vehicles, trucks and railway cars. The insulation in our standard charging plugs and receptacles is of the well-known Aetna Compound, which has been used for electric railway insulation all over the world. Terminals for standard plugs and receptacles are drilled for No. 6 duplex flexible cable.

### TYPE A PLUGS

Double-pole—Capacity, 65 Amperes

Suitable for use with Types A, B, C, D, E, G, H, K, P, R, S, T, X, Y and Z receptacles. Handle of Aetna insulation, iron or aluminum, with all metal current-carrying parts embedded in Aetna insulation. Length over all, 6½ inches. Maximum diameter, 3½ inches.

Trade No.	Mfrs. No.	Description	Net Wt., Lbs.	Price Each
78721	1289	With Aetna handle	1½	\$3.50
78722	1771	With iron handle	3	3.50
78724	1291	With aluminum handle	1¼	4.20

### IMPROVED TYPE A RECEPTACLES

Double-pole—Capacity, 100 Amperes

Takes standard Types A, B and C plugs. Of strong construction. Frame is of iron castings, and contact parts of hard-drawn brass tubing. The insulation is Aetna. The contact parts are protected when not in use by a spring cover, which serves to keep out dust and dirt. Length over all, cover closed 5⅜ inches. Height, 4 inches. Dimensions of base, 3x3¼ inches.

78729	1209	Complete, with lid	3	6.00
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### TYPE C SWIVEL RECEPTACLES

Double-pole—Capacity, 100 Amperes

Takes standard Type A and Type C plugs. This receptacle is designed for use in charging batteries on steam passenger coaches, and is so arranged that it swivels in the frame, which is attached securely to the car body. Should the car move when the plug is in the receptacle, the swivel motion will permit of a direct straight pull, thus disengaging them without injury to either plug or receptacle. Wire terminals are concealed by the iron casing and the contact parts are protected when not in use by a spring lid, which excludes dirt, rain or snow. Height, 8½ inches. Dimensions of base, 9¼x2⅞ inches.

78726	1569	Complete, with swivel frame	20	10.00
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### TYPE L TELEPHONE PLUGS

Double-pole—Capacity, 10 Amperes, 110 Volts

The handle of the plug is a strong iron casting, into which the body of the plug is threaded and anchored by a clamping screw. The contact and insulating parts are effectively protected from mechanical injury by the enclosing sleeves of seamless drawn steel tube. Over all length of plug, 7¾ inches. Maximum diameter, 2 inches.

78727	1825	Plug complete	2	6.50
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### TYPE L TELEPHONE RECEPTACLES

Double-pole—Capacity, 10 Amperes, 110 Volts

Many of the more modern passenger coaches, Pullman and parlor cars, also the better class of passenger steamships, are equipped with telephones, the efficiency of which depends in a large measure on the connection between the portable equipment and the local telephone lines. The complete device consists of a double-pole swivel base receptacle and plug, of the concentric type. Length over all, 6¾ inches. Height, 5 inches.

78728	1826	Receptacle complete	5½	10.00
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## C. X. L. BLASTING MACHINES



These blasting machines are strongly made and will stand with little deterioration the treatment to which it is necessary to subject them.

To operate the push down blasting machine, lift up the rack bar by the handle to its full extent and with one quick hard stroke push it down to the bottom of the box with a solid thud. As the rack bar approaches the bottom, it becomes more difficult to operate because of the building up of the blasting current; but the speed of the thrust should not be diminished, because the finish of the operation is just as important as the start.

Do not be afraid of pushing the rack bar down too hard. The machine is built to stand it, and this is the only way to use it successfully.

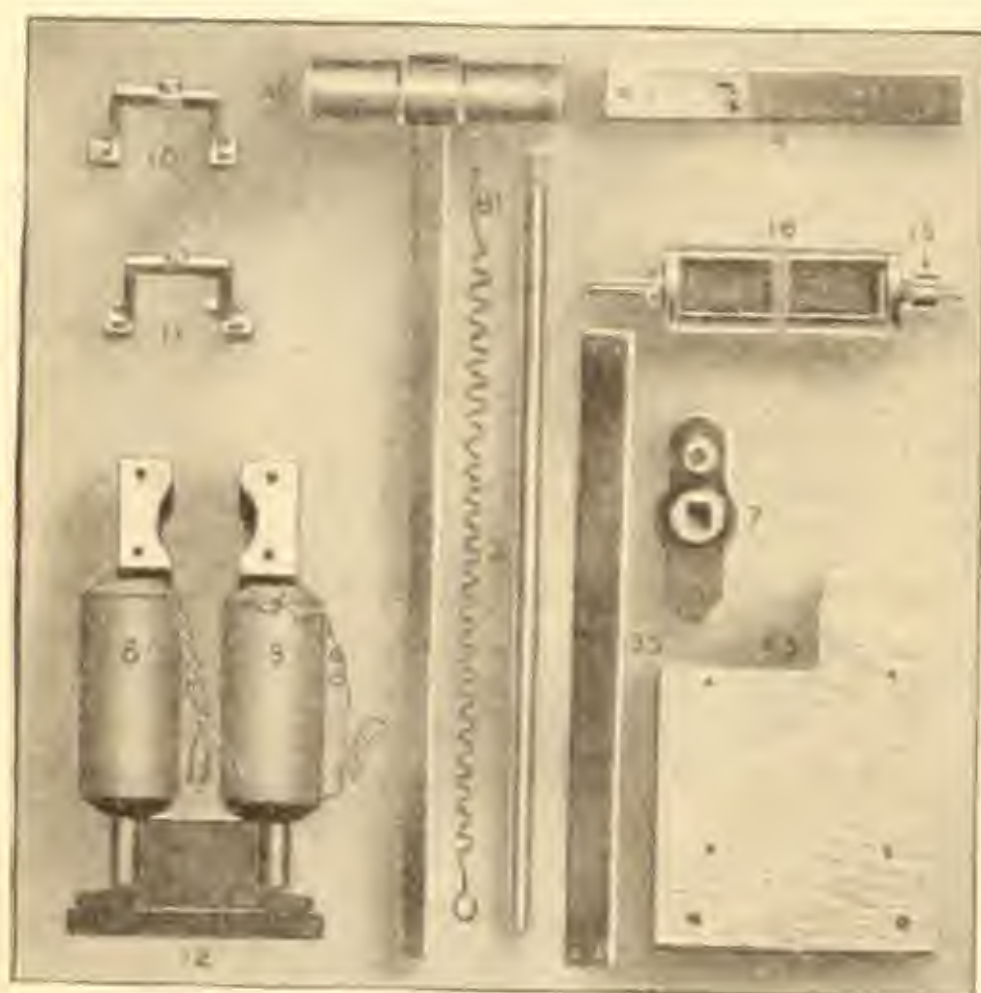
The capacity of three-post blasting machines is increased about 50 per cent over that given in the table below, when a third leading wire is run from the middle binding post and connected to the middle of the blasting circuit; the leading wires from the two outside binding posts being connected to the first and last electric blasting caps in the circuit. When only two leading wires are used with the three-post machine, they must be connected to the middle binding post and either one of the outside binding posts, but never to the two outside binding posts.

Every machine is tested thoroughly before leaving the works and if a new one does not give satisfactory results when received, it may have been injured by rough handling during transportation.

The parts of these blasting machines are all standard and when worn out or broken can be replaced at a small cost. When ordering, give the style and number of the blasting machine in which they are used, as well as the number of the part as shown in illustrations below.

Trade No.	Mfrs. No.	Maximum Capacity with Leading Wires 39° Copper Wire Electric Blasting Caps	Outside Dimensions Shipping Cases Inches	WEIGHT, POUNDS	
				Gross	Net
203188	C. X. L. 2*	10	7 $\frac{1}{4}$ x8 $\frac{3}{4}$ x14 $\frac{1}{2}$	20	15
203189	C. X. L. 3*	30	7 $\frac{1}{2}$ x9 $\frac{3}{4}$ x18 $\frac{3}{4}$	30	25
203190	C. X. L. 5	100	10 $\frac{3}{4}$ x13x22 $\frac{3}{4}$	68	53
203191	C. X. L. 6	150	10 $\frac{3}{4}$ x13x19 $\frac{3}{4}$	52	38

## PARTS OF BLASTING MACHINES



No.	Name	No.	Name	No.	Name	No.	Name
1	Rack Bar	13 & 14	Armature Heads and Shafts	21	Brush Screws	32	Iron Screw
2	Guide Yoke	15	Commutator	22	Brass Nut	33	Iron Screw with Nut, to bolt No. 12 to No. 45
3	Guide Rod	16	Armature	23 & 24	Insulators	34	Mahogany Case
4	Contact Spring	17	Clutch	26	Binding Post	35	Leather Strap
5	Bridge	18	Armature Pinion	27	Wing Nut	36	Wood Handle
6	Contact Screw	19	Pinion Spring	28	Armature Screw	45	Shelf
7	Guide Plate	20	Brush	29	Bearing Screw	81	Con'cting Wire
8 & 9	Fields			30	Iron Screw for Base Block		
10 & 11	Bearings			31	Copper Rivet		
12	Base Block						

\*Two-post, unless ordered with three.

Our type standard in late and protective means to eliminate all permanent distance from

This unit development for normally used driving this pla

Two stand are shut woun as well as opera at this voltage

The swite relay; Field r to use these p for battery ch furnish curren needs the cap This feature of extra heavy—that is, at ti of the genera economical the generator flicker from t entor may be

For best capacity of of from 120 fully charged



## NORTHERN ELECTRIC LIGHTING PLANTS

### 32-VOLT BELT-CONNECTED PLANTS

Our type "S" Belt Connected Lighting Plant follows closely designs which have long been standard in large central station equipment, being furnished with complete measuring, regulating, and protective equipment. The switchboard and generator are assembled as a unit and permanently connected together before shipment, thereby saving much time of installation and eliminating all chance of wrong connections in setting up. It is intended that the board shall be left permanently on the generator, but in cases where it is found convenient to locate it some distance from the generator it is instantly removable.

This unit, containing as it does complete standard equipment, represents the very highest development for plants for use with gasoline or oil engine, or other source of power. An engine normally used for other service such as pumping or operating a milking machine may be used for driving this plant and the owner can secure in this way a most efficient electric plant at low cost.

Two standard plants are supplied of 640 and 1200 watts capacity at 32 volts. The generators are shunt wound; specially designed for this service, being capable of charging storage batteries as well as operating as 32 volt plants. For charging, the voltage may be increased to 40 volts, and at this voltage the plants have respectively 800 and 1500 watt capacity.

### SWITCHBOARDS

The switchboards are equipped with Weston volt and ammeter, N. E. special reverse current relay; Field rheostat; Switches, Fuses and terminals for battery and line wires. It is customary to use these plants with 16 cells of Glass Jar Farm Lighting Battery and the circuits are arranged for battery charging and discharging. At times when the generator is not running the battery will furnish current to the line, or the battery may be floated across the line, and if the line load exceeds the capacity of the generator, will supply extra current up to the capacity of the battery. This feature of being able to combine the output of generator and battery permits the handling of extra heavy loads should this be required occasionally. Wherever the reverse condition is true—that is, at times when the line load is only a portion of the generator capacity, the extra output of the generator may be used for battery charging. This whole arrangement provides most economical service under all conditions. For small loads the battery is used—For medium load the generator furnishes current to the lamps with the battery acting as a balancer, preventing all flicker from the explosions of the engine, and for abnormal loads the output of battery and generator may be combined.

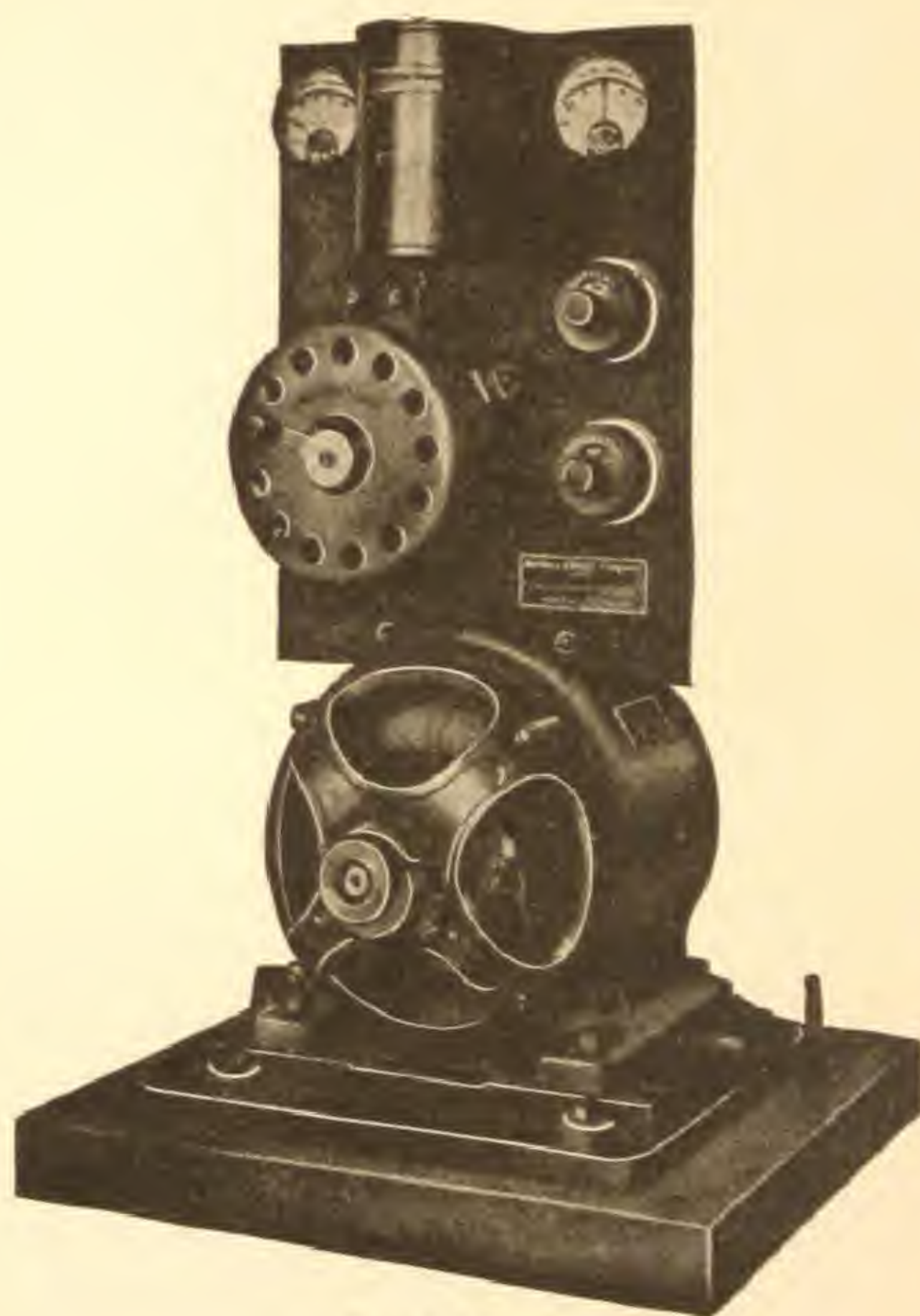
### BATTERY

For best results, the S-8 Plant should be used with a battery having an ampere-hour capacity of from 75 to 135 at the 8-hour rate, and the S-15 Plant, an ampere-hour capacity of from 120 to 180 at the 8-hour rate. We supply promptly from stock glass jar sealed batteries, fully charged and ready for service, for use with these plants. Prices upon application.



## NORTHERN ELECTRIC LIGHTING PLANTS

32-VOLT, BELT-CONNECTED PLANTS



Type S-8 Plant

Trade No.	Mfrs. No.	CAPACITY, WATTS		R. P. M.	Shaft Diam., In.	Shipping Wt., Lbs.	Price Each
		At 32 Volts	At 40 Volts				
203176	S-8	640	800	2400	$\frac{5}{8}$	160	\$200.00
203177	S-15	1200	1500	1900	$\frac{7}{8}$	200	300.00

These plants are carried in stock, ready for shipment, in the two sizes listed above.

They are furnished with mounting base and are provided with belt tightening screws. Pulley or belt are not furnished unless ordered specifically.

This is a  
strong motor  
the ordinary  
It is compou  
starting torq  
mill, pump  
other device  
The foll

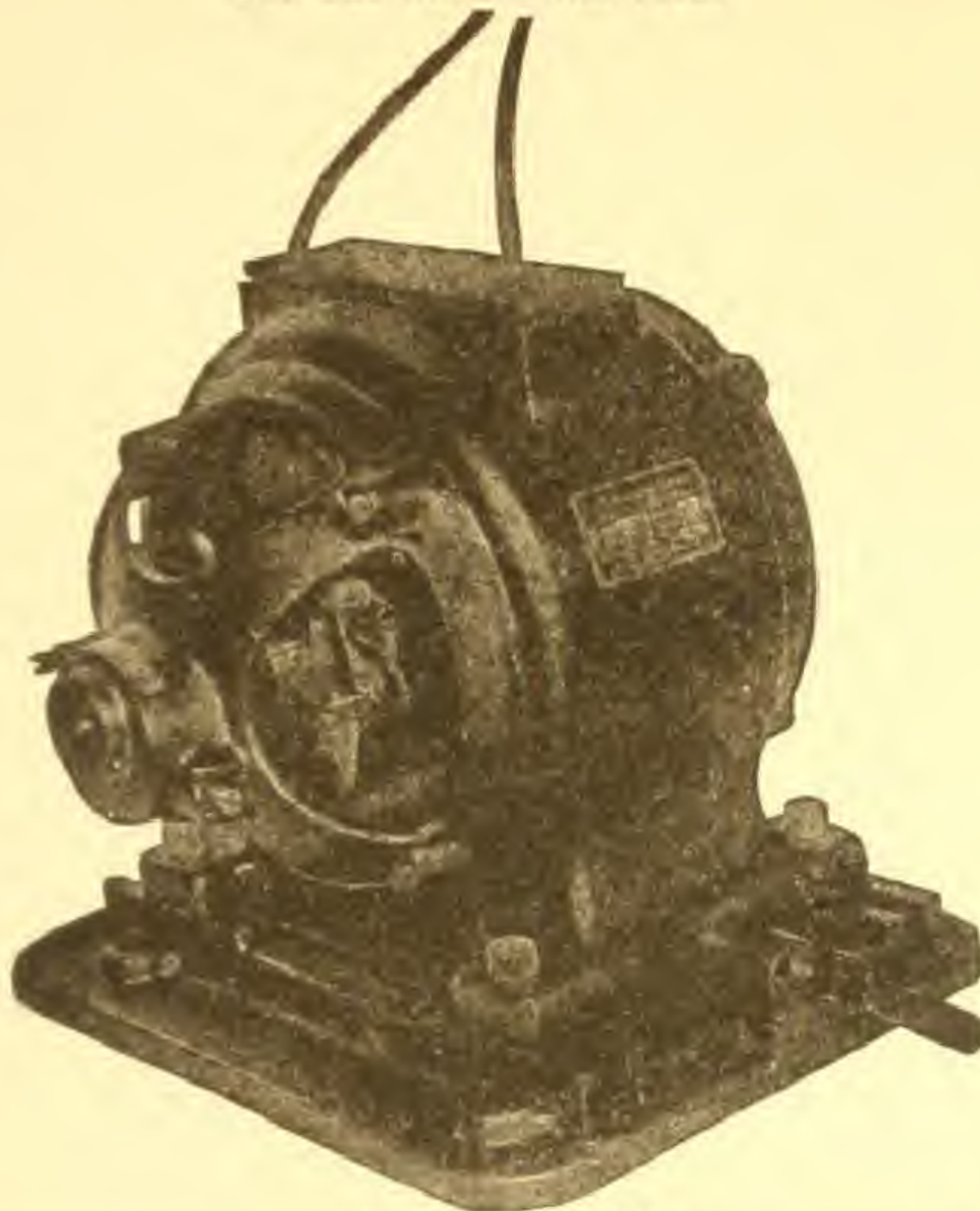
Diam.  
Inches  
2 1/4  
3 1/2  
4  
5



# MOTORS

## STATIONARY MOTORS

For Use with 32-volt Plant



32-volt Motor,  $\frac{1}{2}$  H. P.

This motor is built in Canada by the Northern Electric Company for those who desire a strong motor for doing the farm chores usually done by hand power. It has twice the power of the ordinary portable farm motor, but weighs only 60 pounds. Its speed at full load is 980 r. p. m. It is compound wound, provided with oil ring bearings, slide rails and belt tightener and has high starting torque. It will operate cream separator, churn, grindstone, washing machine, fanning mill, pump water (150 gallons per hour), horse clipper, meat grinder, lathe, emery wheel and other devices usually operated by hand.

The following Standard Pulleys are in stock:

Diam. Inches	Face Inches	Bore Inches	Set Screws Inches	Hub Length Inches	Location
$2\frac{1}{2}$	2	$\frac{1}{2}$	1	$1\frac{1}{4}$	Flush
$3\frac{1}{2}$	2	$\frac{1}{2}$	1	$1\frac{1}{4}$	Flush
4	2	$\frac{1}{2}$	1	$1\frac{1}{4}$	Flush
5	2	$\frac{1}{2}$	1	$1\frac{1}{4}$	Flush

## UTILITY MOTORS

Designed especially for general work on the farm, in the home, machine shop or garage. Will operate devices usually turned by hand, such as churns, cream separators, pumps, grindstones, washing machines, or any other device requiring  $\frac{1}{6}$  horse power or less. One high-speed and two slow-speed pulleys are provided with every motor. The motor is strongly built, is dust-proof and requires a minimum of upkeep. The power cost is negligible as it only requires at full load 225 watts.

Equipment consists of motor, rigid floor stand, brace for securing against floor or wall, handle for convenient moving, 19 feet of cord and plug for connecting to socket.

High-speed grooved pulley, 2-inch diameter,  $\frac{1}{4}$ -inch groove, 1700 r. p. m. Slow-speed grooved pulley,  $4\frac{1}{2}$ -inch diameter,  $\frac{5}{8}$ -inch groove, 84 r. p. m. Slow-speed flat pulley,  $6\frac{7}{8}$ -inch diameter,  $1\frac{1}{2}$ -inch face, 84 r. p. m.

Standard voltage direct current, 32 or 110. Standard voltage alternating current, 110 volts, 60 cycles.

Prices Quoted upon Application



Utility Motor



## AMERICAN FIBRE CONDUIT

### PRICES

#### CONDUIT

All Straight Conduit in Approximately 5-foot Lengths

Inside Diameter Inches	Conduit per Foot	Socket Joint			Caps or Plugs Each	Extra Coupling Each
		Standard Bends Each	Elbows Each	Tees Each		
2	\$0.10	\$1.75	\$2.15	\$2.70	\$0.75	.....
2½	.11	1.80	2.15	2.70	.75	.....
3	.12	1.85	2.20	2.75	.80	.....
3½	.13	2.00	2.20	2.75	.85	.....
4	.15	2.25	2.25	2.85	.90	.....
*Harrington Joint						
2	.13	1.90	2.25	2.95	.75	.10
2½	.14	2.00	2.25	2.95	.75	.11
3	.15	2.10	2.30	3.00	.80	.12
3½	.16	2.30	2.30	3.00	.85	.14
4	.18	2.60	2.35	3.15	.90	.16

\*In the Harrington Joint type, one sleeve or coupling is furnished for every length of conduit or fitting and is included in the above price.

### WEIGHTS, DIMENSIONS AND SHIPPING DATA

All of which are Approximate

Inside Dimens. Inches	Thickness of Wall Inches	Net Wt. per Foot Pounds	Socket Joint			Maximum Number Feet in a 36 Ft. Car	Gross Wt. Maximum Quantity 36 Ft. Car Pounds
			Standard Crate Contains Feet	Gross Wt. Standard Crate Pounds	Std. Crate Bends Contain Pieces	Gross Wt. Std. Crate Bends Pounds	
2	¼	0.90	200	270	25	255	35000
2½	¼	1.09	200	315	25	290	30000
3	¼	1.28	150	280	20	280	25000
3½	¼	1.48	125	285	15	290	21000
4	¼	1.83	100	280	12	295	16500
Harrington Joint							
2	¼	0.95	200	295	25	265	33000
2½	¼	1.20	200	355	25	310	27000
3	¼	1.38	150	315	20	285	23000
3½	¼	1.63	125	315	15	305	20000
4	¼	1.98	100	315	12	300	16000

#### Dimensions of Standard Bends 45 or 90 Degrees

All Bends Measure Approximately Five Feet Over All

Inside Dimens. Inches	Radius Inches	Inside Dimens. Inches	Radius Inches
2	18-24-36	3½	36
2½	24-36	4	36
3	36	...	...

#### S Bends

Standard S bends of inside diameter as above mentioned, are made with 20-inch offset and 36-inch radius.



## STANDARD SYMBOLS FOR WIRING PLANS

As Adopted and Recommended by the National Electrical Contractors Association (Secretary's Office, Utica, N. Y.) and the American Institute of Architects (Secretary's Office, Washington, D. C.), from Whom Copies May be Obtained.

	Ceiling outlet; electric only. Numeral in center indicates number of stand, 16 C. P. incand. lamps.
	Ceiling outlet; combination. 4 indicates 4-16 C. P. stand. incand. lamps and 2 gas burners. If gas only
	Bracket outlet; electric only. Numeral in center indicates number of stand, 16 C. P. incand. lamps.
	Bracket outlet; combination. 4 indicates 4-16 C. P. stand. incand. lamps and 2 gas burners. If gas only
	Wall or baseboard receptacle outlet. Numeral in center indicates number of stand, 16 C. P. incand. lamps.
	Floor outlet. Numeral in center indicates number of stand, 16 C. P. incand. lamps.
	Outlet for outdoor standard or pedestal; electric only. Numeral indicates number of stand, 16 C. P. lamps.
	Outlet for outdoor standard or pedestal; combination. 6 indicates 6-16 C. P. stand. incand. lamps; 6 gas burners.
	Drop cord outlet.
	One light outlet, for lamp receptacle.
	Arc lamp outlet.
	Special outlet, for lighting, heating and power current, as described in specifications.
	Ceiling fan outlet.
	S. P. switch outlet.
	D. P. switch outlet.
	3-way switch outlet.
	4-way switch outlet.
	Automatic door switch outlet.
	Electrolier switch outlet.
	Meter outlet.
	Distribution panel.
	Junction or pull box.
	Motor outlet; numeral in center indicates horse power.
	Motor control outlet.
	Transformer.
	Main or feeder run concealed under floor.
	Main or feeder run concealed under floor above.
	Main or feeder run exposed.
	Branch circuit run concealed under floor.
	Branch circuit run concealed under floor above.
	Branch circuit run exposed.
	Pole line.
	Riser.
	Telephone outlet; private service.
	Telephone outlet; public service.
	Bell outlet.
	Buzzer outlet.
	Push button outlet; numeral indicates number of pushes.
	Annunciator; numeral indicates number of points.
	Speaking tube.
	Watchman clock outlet.
	Watchman station outlet.
	Master time clock outlet.
	Secondary time clock outlet.
	Door opener.
	Special outlet; for signal systems, as described in specifications.
	Battery outlet.
	Circuit for clock, telephone, bell or other service, run under floor, concealed.
	Circuit for clock, telephone, bell or other service, run under floor above, concealed.
	Circuit for clock, telephone, bell or other service, run under floor exposed.
	Circuit for clock, telephone, bell or other service, run under floor above, exposed.

Show as many symbols as there are switches. Or in case of a very large group of switches, indicate number of switches by a Roman numeral, thus: S<sup>I</sup> XII, meaning 12 single-pole switches. Describe type of switch in specifications, that is, flush or surface, push button or snap.

#### Suggestions in Connection with Standard Symbols for Wiring Plans

It is important that ample space be allowed for the installation of mains, feeders, branches and distribution panels.

It is desirable that a key to the symbols used accompany all plans.

If mains, feeders, branches and distribution panels are shown on the plans, it is desirable that they be designated by letters or numbers.

Heights of centre of wall outlets (unless otherwise specified):

Living rooms . . . 5 feet, 6 inches  
Chambers . . . . . 5 feet  
Offices . . . . . 6 feet  
Corridors . . . . . 6 feet, 3 inches  
Height of switches (unless otherwise specified) 4 feet.

Millimeter  
Centimeter  
Decimeter  
Meter  
Dekameter  
Hectometer  
Kilometer  
Myriameter  
It will be  
meter and so

Milliliter  
Centiliter  
Deciliter  
Liter  
Dekaliter  
Hectoliter  
Kiloliter

Milligram  
Centigram  
Decigram  
Gramme  
Dekagram  
Hectogram  
Kilogram  
Myriagram

Hectare  
Are  
Centiare

Inches  
Feet  
Yards  
Miles  
Sq. Inches  
Sq. Feet  
Acres  
Cu. Inches  
Cu. Feet

It has  
as follows:  
K. W.  
Per Cent.  
The field  
with all of the

The basis  
mil of cross  
10 7 Ohms  
cross section  
The resis  
of a mil-foot

The cross  
the resistance

The length  
its resistance

NOTE.—If other than standard 16 C. P. incandescent lamps are desired, specifications should describe capacity of lamp to be used.



# TABLES

## METRIC SYSTEM OF WEIGHTS AND MEASURES

### MEASURES OF LENGTHS

1 Millimeter	=	0.001	Meter	=	0.0394	Inch
1 Centimeter	=	0.01	Meter	=	0.3937	Inch
1 Decimeter	=	0.1	Meter	=	3.937	Inch
1 Meter	=	1	Meter	=	39.37	Inch
1 Dekameter	=	10	Meters	=	393.7	Inch
1 Hectometer	=	100	Meters	=	328 Feet	1 Inch
1 Kilometer	=	1000	Meters	=	3280 Feet	10 Inches
1 Myriameter	=	10000	Meters	=	6.2137	Miles

It will be noticed that 10 Millimeters equal 1 Centimeter, 10 Centimeters equal 1 Decimeter and so on.

### MEASURES OF VOLUMES

1 Milliliter	=	0.001	Liter	=	0.061	Cubic Inch
1 Centiliter	=	0.01	Liter	=	0.6102	Cubic Inch
1 Deciliter	=	0.1	Liter	=	6.1022	Cubic Inches
1 Liter	=	1	Liter	=	0.9081	Quart
1 Dekaliter	=	10	Liters	=	9.081	Quarts
1 Hectoliter	=	100	Liters	=	2	Bushels 3.35 Pks.
1 Kiloliter	=	1000	Liters	=	1.308	Cubic Yards

### WEIGHTS

1 Milligramme	=	0.001	Gramme	=	0.0154	Grain
1 Centigramme	=	0.01	Gramme	=	0.1543	Grain
1 Decigramme	=	0.1	Gramme	=	1.5432	Grains
1 Gramme	=	1	Gramme	=	15.432	Grains
1 Dekagramme	=	10	Grammes	=	0.3527	Ounce
1 Hectogramme	=	100	Grammes	=	3.5274	Ounces
1 Kilogramme	=	1000	Grammes	=	2.2046	Pounds
1 Myriagramme	=	10000	Grammes	=	22.046	Pounds

### MEASURES OF SURFACE

1 Hectare	=	10000	Square Meters	=	2.471	Acres
1 Are	=	100	Square Meters	=	119.6	Square Yards
1 Centiare	=	1	Square Meter	=	1.550	Square Inches

### METRIC AND ENGLISH EQUIVALENTS

Inches	=	Millimeters	÷	25	Lbs. Avoirdupois	=	Kilogrammes	×	2.40262
Feet	=	Meters	×	3.2803	Tons (2000 lbs.)	=	Kilogrammes	÷	907.18
Yards	=	Meters	×	1.09361	Lbs. per foot	=	Kilo per meter	×	67196
Miles	=	Kilometers	÷	1.60935	Lbs. per cwt. ft.	=	Kilo per cu. meter	×	0.6243
Sq. Inches	=	Sq. Millimeters	×	0.0155	Sq. Millimeters	=	Sq. Inches	×	645.137
Sq. Feet	=	Square Meters	×	10.7641	Square Meter	=	Square Feet	×	0.929
Acres	=	Sq. Kilometers	×	247.114	Grammes	=	Ounces	×	28.3495
Cu. Inches	=	Cu. Centimeters	÷	16.3870	Grammes	=	Pounds	×	453.5926
Cu. Feet	=	Cubic Meters	×	35.3140	Kilogrammes	=	Pounds	×	45359

### FIELD CURRENT IN D. C. DYNAMOS

It has been found that a fair average for the field amperes of different sized dynamos, is as follows:—

K. W.	1	5	10	20	30	50	75	100
Per Cent.	8	6	5	4	3.5	3	3	2.75

The field current (expressed as a percentage of full load current on lines) is determined with all of the resistance out, that is, with rheostat on first notch.

### COPPER WIRE RESISTANCE

The basis for computation of resistance of copper wires is a wire 1 foot long and one circular mil of cross section known as a mil-foot, and which has a resistance at 24° C., or 75° F., of about 10.7 Ohms. The resistance of a copper wire varies directly as its length and inversely as its cross section; hence,

The resistance (R) of a copper wire is equal to its length (D) multiplied by the resistance of a mil-foot and divided by the cross section in circular mils (CM).

$$\text{Or, } R = \frac{D \times 10.7}{\text{CM}} \text{ also}$$

The cross section (CM) in circular mils of a wire is equal to its length (D) multiplied by the resistance of a mil-foot, divided by its resistance (R).

$$\text{CM} = \frac{D \times 10.7}{R} \text{ also}$$

The length (D) of a wire is equal to the cross section in circular mils (CM) multiplied by its resistance (R) and divided by the resistance of a mil-foot.

$$D = \frac{\text{CM} \times R}{10.7}$$



## EQUIVALENT VALUES IN DIFFERENT UNITS

1 H.P. =	746 watts	1 heat-unit =	1,055 watt seconds
	746 K.W.		778 ft.-lbs.
	33,000 ft.-lbs. per minute		107.6 kilogram meters
	550 ft.-lbs. per second		.000293 K.W. hour
1 H.P. Hour =	2,545 heat-units per hour	1 heat-unit per sq.ft. per min. =	.000393 H.P. hour
	42.4 heat units per minute		.0000688 lbs. carbon oxidized
	.707 heat-units per second		.001036 lbs. water evaporated from and at 212° F.
	.175 lbs carbon oxidized per hour		.122 watts per sq. in.
1 kilo-watt =	2.64 lbs. water evaporated per hour from and at 212° F.	1 watt =	.0176 K.W. per sq. ft.
	746 K.W. hours		.0236 H.P. per sq. ft.
	1,980,000 ft.-lbs.		1 joule per second
	2,545 heat-units		.00134 H.P.
1 watt per sq. in. =	273,740 k.g.m.	1 K.W. hour =	3,412 heat-units per hour
	.175 lbs. carbon oxidized with perfect efficiency		.7373 ft.-lbs. per second
	2.64 lbs. water evaporated from and at 212° F.		.0035 lb. water evaporated per hour
	17.0 lbs. water raised from 62° to 212° F.		44.24 ft.-lbs. per minute
1 kilo-gram meter =	1,000 watts	1 joule =	1,000 watt hours
	1.34 H.P.		1.34 H.P. hours
	2,654,200 ft.-lbs. per hour		2,654,200 ft.-lbs.
	44,240 ft.-lbs. per minute		3,600,000 joules
1 lb. water evaporated from & at 212° F. =	737.3 ft.-lbs. per second	1 ft.-lb. =	3,412 heat-units
	3,412 heat-units per hour		367,000 kilogram meters
	56.9 heat-units per minute		.235 lb. carbon oxidized with perfect efficiency
	.948 heat-units per second		3.53 lbs. water evaporated from and at 212° F.
1 watt =	.2275 lb. carbon oxidized per hour	1 lb car-bon oxidized with perfect efficiency =	22.75 lbs. of water raised from 62° to 212° F.
	3.53 lbs. water evaporated per hour from and at 212° F.		1 watt second
	8.9 heat-units per sq. ft. per minute		.000000278 K.W. hour
	6,371 ft.-lbs. per sq. ft. per minute		.102 k.g.m.
1 kilo-gram meter =	.193 H.P. per sq. ft.	1 lb car-bon oxidized with perfect efficiency =	.0009477 heat-units
	7.233 ft.-lbs.		.7373 ft.-lb.
	.00000365 H.P. hour		1.356 joules
	.00000272 K.W. hour		.1383 k.g.m.
1 lb. wa-ter evap-orated from & at 212° F. =	.0093 heat-units	1 B.T.U. =	.000000377 K.W. hours
	.283 K.W. hour		.001285 heat-units
	.379 H.P. hour		.0000005 H.P. hour
	965.7 heat-units		14,544 heat-units
1 K.W. =	103,900 k.g.m.	1 B.T.U. =	1.11 lb. anthracite coal oxidized
	1,019,000 joules		2.5 lbs. dry wood oxidized
	751,300 ft.-lbs.		21 cu. ft. illuminating gas
	.0664 lb. of carbon oxidized		4.26 K.W. hours
1 H.P. =		1 B.T.U. =	5.71 H.P. hours
			11,315,000 ft.-lbs.
			15 lbs. of water evaporated from and at 212° F.

## EQUIVALENTS OF ELECTRICAL UNITS

1 Horse Power = 33000 foot pounds per minute	1 B.T.U. = 17.452 watt minutes
1 Kilowatt = 44235 foot pounds per minute	1 B.T.U. = 0.2909 watt hours
1 Horse Power = 746 Watts	Latent heat of evaporation of water = 966 B.T.U.
1 Kilowatt = 1.34 H.P.	Latent heat of melting of water = 142 B.T.U.
1 B.T.U. (British Thermal Unit) = 772 ft.-lbs.	To evaporate 1 lb. water from and at 212° = 16.859 K.W. minutes
1 Watt = 44.236 foot pounds per minute	To evaporate 1 lb. water from and at 212° = 0.281 K.W. hours
1 Watt = 2654.16 foot pounds per hour	Weight per cu. ft. of water = 62.42 lbs.
1 H.P. = 42.746 B.T.U. per minute	Weight per gallon of water = 8.33 lbs.
1 H.P. = 2564.76 B.T.U. per hour	
1 K.W. = 0.955 B.T.U. per second	
1 K.W. = 57.3 B.T.U. per minute	
1 K.W. = 3438 B.T.U. per hour	

Comparat  
To find th  
copper wire, tCopper  
Norway Iron  
Soft Steel  
18 Per Cent C  
30 Per Cent CResistan  
TemperatNo. Ohms  
B. & S. 100 Ft.

0	1.7
1	2.2
2	2.8
3	3.6
4	4.5
5	5.7
6	7.2

Size, Wire, Ba  
B. & S. Hand

(000)	
000	
00	
0	
1	
2	
3	
4	

Resistan  
Temper  
SpecificNo. Diam.  
B. & S. In.

1	.289
2	.258
3	.229
4	.204
5	.182
6	.162
7	.144
8	.128
9	.113
10	.102
11	.091
12	.081
13	.072
14	.064
15	.057
16	.051
17	.045
18	.040
19	.036
20	.032



## COMPARATIVE RESISTANCES

Comparative resistances of various materials taking copper as 1.

To find the resistance of any wire, first get the resistance of the same length and size of copper wire, then multiply this by figure below for the wire used.

Copper	1	Advance	28	Phosphor-Bronze	3
Norway Iron	7	S. B.	32	Platinum	5.5
Soft Steel	8	Climax	50	Iron Wire (E. B. B.)	5.5
18 Per Cent German Silver	18	Silver	.98	Iron Wire (BB)	6.4
30 Per Cent German Silver	28	Aluminum	1.8	Iron Wire (Special)	7.4

### 18 PER CENT GERMAN SILVER

Resistance per mil foot, 189 Ohms.

Temperature co-efficient .00017 per degree Fahr.

No. B. & S.	Ohms 1000 Ft.	No. B. & S.	Ohms 1000 Ft.	No. B. & S.	Ohms 1000 Ft.	No. B. & S.	Ohms 1000 Ft.	No. B. & S.	Ohms 1000 Ft.	No. B. & S.	Ohms 1000 Ft.
0	1.7	7	9.1	14	46.1	21	234	28	1192	35	6020
1	2.2	8	11.5	15	58.2	22	295	29	1480	36	7560
2	2.8	9	14.5	16	72.7	23	370	30	1890	37	9550
3	3.6	10	18.1	17	93.4	24	468	31	2386	38	12038
4	4.5	11	22.8	18	118	25	590	32	2950	39	15240
5	5.7	12	28.8	19	146	26	749	33	3740	40	19285
6	7.2	13	36.5	20	184	27	936	34	4760	..	.....

### TENSILE STRENGTH OF COPPER WIRE

Size, Wire B. & S.	BREAKING WT., LBS. Hard-Drawn	Wt., LBS. Annealed	Size, Wire B. & S.	BREAKING WT., LBS. Hard-Drawn	Wt., LBS. Annealed	Size, Wire B. & S.	BREAKING WT., LBS. Hard-Drawn	Wt., LBS. Annealed
0000	9971	5650	5	1559	883	13	244	138
000	7907	4480	6	1237	700	14	193	109
00	6271	3553	7	980	555	15	153	87
0	4973	2818	8	778	440	16	133	69
1	3943	2234	9	617	349	17	97	55
2	3127	1772	10	489	277	18	77	43
3	2480	1405	11	388	219	19	61	34
4	1967	1114	12	307	174	20	48	27

### PROPERTIES OF CLIMAX RESISTANCE WIRE

Resistance per mil foot at 75° Fahr.—525 Ohms.  
Temperature co-efficient .0004 per degree Fahr.

Specific gravity, 8.137.

No. B. & S.	Diam. In.	Area in Cir. Mils C.M.=D <sup>2</sup>	Resistance per 1000 Ft. at 75° F.	Wt., Lbs. per 1000 Ft. Bare	Ohms per Pound
1	.289	83521	6.2	231	.026
2	.258	66564	7.9	184	.041
3	.229	52441	10	145	.066
4	.204	41616	12.6	115	.105
5	.182	33124	15.8	92	.165
6	.162	26244	20	73	.263
7	.144	20736	25.3	57	.427
8	.128	16384	32	45	.685
9	.113	12996	40.4	36	1.08
10	.102	10404	50.4	29	1.65
11	.091	8281	63.4	23	2.70
12	.081	6561	80	18	4.27
13	.072	5184	101	14.3	6.85
14	.064	4096	128	11.3	10.9
15	.057	3249	161	9.2	16.9
16	.051	2601	202	7.2	27
17	.045	2025	258	5.6	44.5
18	.040	1600	328	4.42	71.3
19	.036	1296	404	3.58	108
20	.032	1024	510	2.83	174
21	.0285	812.3	646	2.24	.0285
22	.0253	640.1	820	1.77	.0253
23	.0226	510.8	1027	1.41	.0226
24	.0201	404	1290	1.12	.0201
25	.0179	320.4	1640	.89	.0179
26	.0159	252.8	2080	.70	.0159
27	.0142	201.6	2580	.56	.0142
28	.0126	158.8	3300	.44	.0126
29	.0113	127.7	4100	.35	.0113
30	.010	100	5250	.276	.010
31	.0089	79.2	6620	.219	.0089
32	.008	64	8200	.177	.008
33	.0071	50.4	10410	.139	.0071
34	.0063	39.7	13220	.11	.0063
35	.0056	31.4	16720	.087	.0056
36	.005	25	21000	.069	.005
37	.0045	20.2	26000	.056	.0045
38	.004	16	33000	.045	.004
39	.0035	12.2	43000	.034	.0035
40	.003	9	58000	.025	.003



## WIRING TABLES

## TWO PER CENT LOSS ON 32 VOLTS

Capacity Amperes	DISTANCE IN FEET TO CENTER OF DISTRIBUTION																	
	20	25	30	35	40	45	50	60	70	80	90	100	120	140	160	180	200	250
1	..	..	..	..	..	..	..	..	..	..	..	16	16	15	14	14	13	12
1.5	..	..	..	..	..	..	..	..	..	16	15	15	14	13	13	12	12	11
2	..	..	..	..	..	..	16	16	15	14	14	13	13	12	11	11	10	9
3	..	..	..	16	16	15	15	14	13	13	12	12	11	10	10	9	9	8
4	..	16	15	15	14	14	13	13	12	11	11	10	10	9	8	8	7	6
5	16	16	15	14	13	13	12	12	11	10	10	9	9	8	7	7	6	5
6	16	15	14	13	13	12	12	11	10	10	9	9	8	7	7	6	6	5
7	15	14	13	12	12	11	11	10	10	9	8	8	7	7	6	5	5	4
8	14	13	13	12	11	11	10	10	9	8	8	7	7	6	5	5	4	3
9	14	13	12	11	11	10	10	9	8	8	7	7	6	5	5	4	4	3
10	13	12	12	11	10	10	9	9	8	7	7	6	6	5	4	4	3	2
12	13	12	11	10	10	9	9	8	7	7	6	6	5	4	4	3	3	2
14	12	11	10	10	9	8	8	7	7	6	5	5	4	4	3	2	2	1
16	11	10	10	9	8	8	7	7	6	5	5	4	4	3	2	2	1	0
18	11	10	9	8	8	7	7	6	5	5	4	4	3	2	2	1	1	0
20	10	9	9	8	7	7	6	6	5	4	4	3	3	2	1	1	0	00
25	9	8	8	7	6	6	5	5	4	3	3	2	2	1	0	0	00	00
30	9	8	7	6	6	5	5	4	3	3	2	2	1	0	0	00	00	000
35	8	7	6	6	5	4	4	3	2	2	1	1	0	0	00	00	000	000
40	7	6	6	5	4	4	3	3	2	1	1	0	0	00	000	000	0000	0000
45	7	6	5	4	4	3	3	2	1	1	0	0	00	00	000	0000	0000	0000
50	6	5	5	4	3	3	2	2	1	0	0	00	00	000	0000	0000	0000	....
55	6	5	4	4	3	3	2	1	0	0	00	00	000	0000	0000	0000	....	....
60	6	5	4	3	3	2	2	1	0	0	00	00	000	0000	0000	....	....	....
65	5	4	4	3	2	2	1	1	0	00	00	000	000	0000	....	....	....	....
70	5	4	3	2	2	1	1	0	00	00	000	000	0000	....	....	....	....	....
75	5	4	3	2	2	1	1	0	00	00	000	000	0000	....	....	....	....	....
80	4	3	3	2	1	1	0	0	00	000	000	0000	0000	....	....	....	....	....
90	4	3	2	1	1	0	0	00	00	000	0000	0000	....	....	....	....	....	....
100	3	2	2	1	0	0	00	00	000	000	0000	....	....	....	....	....	....	....

## TWO PER CENT LOSS ON 110 VOLTS

Capacity Amperes	DISTANCE IN FEET TO CENTER OF DISTRIBUTION																			
	20	30	40	50	60	70	80	90	100	120	140	160	180	200	240	280	320	360	400	
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	15	15	14	14	
1.5	..	..	..	..	..	..	..	..	..	..	..	16	15	15	14	14	13	12	12	
2	..	..	..	..	..	..	..	..	..	16	15	15	14	14	13	12	12	11	11	
3	..	..	..	..	..	..	16	15	15	14	14	13	12	12	11	11	10	9	9	
4	..	..	..	..	16	15	15	14	14	13	12	12	11	11	10	9	9	8	8	
5	..	..	..	16	15	14	14	13	13	12	11	11	10	10	9	8	8	7	7	
6	..	..	16	15	14	14	13	12	12	11	11	10	9	9	8	8	7	7	6	
7	..	16	15	14	14	13	12	12	11	11	10	9	9	8	7	7	6	6	5	
8	..	16	15	14	13	12	12	11	11	10	9	9	8	8	7	7	6	5	5	
9	..	15	14	13	12	12	11	11	10	9	9	8	8	7	7	6	5	5	4	
10	16	15	14	13	12	11	11	10	10	9	8	8	7	7	6	5	5	4	4	
12	16	14	13	12	11	11	10	9	9	8	8	7	7	6	5	5	4	4	3	
14	15	14	12	11	11	10	9	9	8	7	7	6	6	5	5	4	3	3	2	
16	15	13	12	11	10	9	9	8	8	7	7	6	5	5	4	3	3	2	2	
18	14	12	11	10	9	9	8	8	7	7	6	5	5	4	4	3	2	2	1	
20	14	12	11	10	9	8	8	7	7	6	5	5	4	4	3	2	2	1	1	
25	13	11	10	9	8	7	7	6	6	5	4	4	3	3	2	1	1	0	0	
30	12	10	9	8	7	7	6	6	5	4	4	3	3	2	1	1	0	0	00	
35	11	10	8	7	7	6	5	5	4	4	3	2	2	1	1	0	00	00	000	
40	11	9	8	7	6	5	5	4	4	3	2	2	1	1	0	00	00	000	000	
45	10	9	7	6	6	5	4	4	3	3	2	1	1	0	00	00	000	000	0000	
50	10	8	7	6	5	4	4	3	3	2	1	1	0	0	00	000	000	0000	0000	
60	9	7	6	5	4	4	3	3	2	1	1	0	0	00	000	000	0000	0000	....	
70	8	7	5	4	4	3	2	2	1	1	0	00	00	000	000	0000	0000	....	....	
80	8	6	5	4	3	2	2	1	1	0	00	00	000	000	0000	0000	....	....	....	
90	7	6	4	3	3	2	1	1	0	00	00	000	000	0000	0000	....	....	....	....	
100	7	5	4	3	2	1	1	0	0	00	000	000	0000	0000	....	....	....	....	....	
120	6	4	3	2	1	1	0	0	00	00	000	0000	0000	....	....	....	....	....	....	

Wire sizes given are B. &amp; S. gauge.

Cap. Amps

1 1.5 2 3 4 5 6 7 8 9 10 12 14 16 18 20 25 30 35 40 45 50 60 70 80 90 100 120

Wire size

Base Power

1 1 1/2 2 3 4 5 7 1/2 10 15 20

Get dis  
"T" from  
"T" eq  
phase for  
phase, and  
wire two-ph  
phase for m

Circuit

For D.



# WIRING TABLES

## 2 PER CENT LOSS, 220 VOLTS

Cap. Amps.	DISTANCE IN FEET TO CENTER OF DISTRIBUTION																			
	20	30	40	50	60	70	80	90	100	120	140	160	180	200	240	250	320	360	400	
1																			16	
1.5																	16	15	15	
2															16	15	15	14	14	
3															16	15	15	13	12	
4										16	15	15	14	14	13	12	12	11	11	
5									16	15	14	14	13	13	12	11	11	10	10	
6							16	15	15	14	14	13	12	12	11	11	10	9	9	
7						16	15	14	14	14	13	12	12	11	11	10	9	9	8	
8					16	15	15	14	14	13	12	12	11	11	10	9	9	8	8	
9					15	15	14	14	13	12	12	11	11	10	9	8	8	7	7	
10				16	15	14	14	13	13	12	11	11	10	10	9	8	8	7	6	
12			16	15	14	14	13	12	12	11	11	10	9	9	8	8	7	6	5	
14		16	15	14	14	13	12	12	11	11	10	9	9	8	7	7	6	5	4	
16		16	15	14	13	12	12	11	11	10	9	9	8	8	7	7	6	5	4	
18		15	14	13	12	12	11	11	10	9	9	8	8	7	7	6	5	4	4	
20	16	15	14	13	12	11	11	10	10	9	8	8	7	7	6	5	4	3	3	
25	16	14	13	12	11	10	10	9	9	8	7	7	6	6	5	4	4	3	2	
30	15	13	12	11	10	10	9	8	8	7	7	6	5	5	4	4	3	2	1	
35	14	13	11	10	10	9	8	8	7	7	6	5	5	4	4	3	2	1	1	
40	14	12	11	10	9	8	8	7	7	6	5	5	4	4	3	3	2	1	0	
45	13	12	10	9	9	8	7	7	6	6	5	4	4	3	3	2	1	0	0	
50	13	11	10	9	8	7	7	6	6	5	4	4	3	3	2	1	0	0	00	
60	12	10	9	8	7	7	6	5	5	4	4	3	3	2	1	1	0	00	000	
70	11	10	8	7	7	6	5	5	4	4	3	2	2	1	1	0	00	000	0000	
80	11	9	8	7	6	5	5	4	4	3	3	2	1	1	0	00	000	0000	00000	
90	10	9	7	6	6	5	4	4	3	3	2	1	1	0	00	000	0000	00000	00000	
100	10	8	7	6	5	4	4	3	3	2	1	1	0	00	000	0000	00000	00000	00000	
120	9	7	6	5	4	4	3	3	2	1	1	0	0	00	000	0000	00000	00000	00000	

Wire sizes given are B. & S.

## MINIMUM SIZED WIRE FOR MOTOR SERVICES

When Concealed or Partly Concealed Wires are used

Horse Power	SIZE OF WIRE, B. & S.			Horse Power	SIZE OF WIRE, B. & S.		
	110 Volts	220 Volts	500 Volts		110 Volts	220 Volts	500 Volts
1/2	14	14	14	25	000	1	6
1	14	14	14	30	0000	0	5
2	12	14	14	40	.....	00	3
3	10	14	14	50	.....	000	2
4	8	12	14	60	.....	0000	1
5	6	10	14	70	.....	.....	0
7 1/2	4	8	14	80	.....	.....	00
10	3	6	12	90	.....	.....	00
15	0	5	10	100	.....	.....	000
20	00	3	8	120	.....	.....	0000

## FORMULA FOR ALTERNATING CURRENT WIRING

Get distance in feet; watts delivered; volts at delivery end; per cent loss desired. Select "T" from the following:  
 "T" equals 2,150 for direct current, 2,400 for single-phase for lights only, 3,000 for single-phase for motor and lights, 3,380 for single-phase for motor only, 1,200 for three-wire three-phase, and four-wire two-phase for lights only, or 1,500 for three-wire three-phase, and four-wire two-phase for lights and motors, or 1,690 for three-wire three-phase, and four-wire two-phase for motors only.

Circular Mills, each wire =  $\frac{\text{Feet} \times \text{watts} \times T}{\text{per cent loss} \times \text{volts} \times \text{volts.}}$

For D. C. use C. M. =  $\frac{\text{Amps.} \times \text{distance} \times 2200}{\text{per cent loss} \times \text{volts.}}$  or  $\frac{\text{Feet} \times \text{watts} \times 2200}{\text{per cent loss} \times \text{volts} \times \text{volts.}}$



## GENERAL WIRING FORMULA

## FOR ALTERNATING AND DIRECT CURRENT CIRCUITS

The following general formula may be used to determine the size of copper conductors, volts loss in lines, current per conductor, and of copper per circuit for any system of electrical distribution.

$$\text{Area of conductor, circular mils} = \frac{D \times W \times C}{P \times E^2}$$

$$\text{Volts loss in lines} = \frac{P \times E \times B}{100}$$

$$\text{Current in main conductors} = \frac{W \times T}{E}$$

$$\text{Pounds copper} = \frac{D^2 \times W \times C \times A}{P \times E \times 1000000}$$

W = Total watts delivered.

D = Distance of transmission (1 way) in feet.

P = Loss in line in per cent of power delivered, that is of W.

E = Voltage between main conductors at receiving or consumer's end of circuit.

For continuous current C = 2160, T = 1, B = 1, and A = 6.04.

System	Value of A	PER CENT POWER FACTOR					Value of T				
		100	95	90	85	80	100	95	90	85	80
Single-phase	6.04	2160	2400	2660	3000	3380	1.00	1.05	1.11	1.17	1.25
Two-phase (4-wire)	12.08	1080	1200	1330	1500	1690	.50	.53	.55	.59	.62
Three-phase (3-wire)	9.06	1080	1200	1330	1500	1690	.58	.61	.64	.68	.72

## APPLICATION OF FORMULA

The value of C for any particular power factor is obtained by dividing 2160, the value for continuous current, by the square of that power factor for single-phase, and by twice the square of that power factor for three-wire three-phase, or four-wire two-phase.

The value of B depends on the size of wire, frequency and power factor. It is equal to 1 for continuous current, and for alternating current with 100 per cent power factor and sizes of wire given in the preceding table of wiring constants.

The figures given are for wires 18 inches apart and are sufficiently accurate for all practical purposes provided the displacement in phase between current and E. M. F. at the receiving end is not very much greater than that at the generator; in other words, provided that the reactance of the line is not excessive, or the line loss unusually high. For example, the constants should not be applied at 125 cycles if the largest conductors are used and the loss 20 per cent or more of the power delivered. At lower frequencies, however, the constants are reasonably correct even under such extreme conditions. They represent about the true values at 10 per cent line loss, are close enough at all losses less than 10 per cent, and often, at least for frequencies up to 40 cycles, close enough for even much larger losses. Where the conductors of a circuit are nearer each other than 18 inches, the volts loss will be less than given by the formula, and if close together, as with multiple conductor cable, the loss will be only that due to resistance.

The value of T depends on the system and power factor. It is equal to 1 for continuous current and for single-phase current of 100 per cent power factor.

The value of A and the weights of the wires in the table are based on .00000302 pound as the weight of a foot of copper wire of 1 circular mil area.

In using the above formula and constants, it should be particularly observed that P stands for the per cent loss in the line of the delivered power, not for the per cent loss in the line of the power at the generator; and that E is the potential at the end of the line and not at the generator.

When the power factor cannot be more accurately determined, it may be assumed to be as follows for any alternating system operating under average conditions: Incandescent lighting and synchronous motors, 95 per cent; lighting and induction motors together, 85 per cent; induction motors alone, 80 per cent.

In continuous current three-wire systems, the neutral wire for feeders should be made of  $\frac{1}{2}$  the section obtained by the formula for either of the outside wires. In both continuous and alternating current systems, the neutral conductor for secondary mains and house wiring should be taken as large as the other conductors.

The three wires of a three-phase circuit and the four wires of a two-phase circuit should be made all the same size, and each conductor should be of the cross section given by the first formula.



# GENERAL WIRING FORMULA

## FOR ALTERNATING AND DIRECT CURRENT CIRCUITS

Size of Wire B. & S.	Area Wire Cir. Mils	Wt., Lbs Bare Wire per 1000 Ft.	Resistance Ohms per 1000 Ft. at 20° C.	Value of B								Size of Wire B. & S.
				25 CYCLES				40 CYCLES				
				PER CENT POWER FACTOR				PER CENT POWER FACTOR				
				95	90	85	80	95	90	85	80	
0000	211600	640.73	.04879	1.23	1.29	1.33	1.34	1.52	1.53	1.61	1.67	0000
000	167805	508.12	.06154	1.18	1.22	1.24	1.24	1.40	1.41	1.48	1.51	000
00	133079	402.97	.07758	1.14	1.16	1.16	1.16	1.25	1.32	1.35	1.37	00
0	105560	319	.09775	1.10	1.11	1.10	1.09	1.19	1.24	1.26	1.26	0
1	83694	253.43	.1234	1.07	1.07	1.05	1.03	1.14	1.17	1.18	1.17	1
2	66373	200.98	.1556	1.05	1.04	1.02	1	1.11	1.12	1.12	1.10	2
3	52633	159.38	.1962	1.03	1.02	1	1	1.07	1.08	1.07	1.05	3
4	41742	126.40	.2473	1.02	1	1	1	1.05	1.06	1.03	1	4
5	33102	100.23	.3120	1	1	1	1	1.03	1.01	1	1	5
6	26250	79.49	.3934	1	1	1	1	1.02	1	1	1	6
7	20816	63.03	.4959	1	1	1	1	1.01	1	1	1	7
8	16509	49.99	.6250	1	1	1	1	1	1	1	1	8
9	13090	39.60	.7886	1	1	1	1	1	1	1	1	9
10	10382	31.40	.9940	1	1	1	1	1	1	1	1	10

Size of Wire B. & S.	Area Wire Cir. Mils	Wt., Lbs. Bare Wire per 1000 Ft.	Resistance Ohms per 1000 Ft. at 20° C.	Value of B								Size of Wire B. & S.
				60 CYCLES				125 CYCLES				
				95	90	85	80	PER CENT POWER FACTOR	95	90	85	
0000	211600	640.73	.04879	1.62	1.84	1.99	2.09	2.35	2.86	3.24	3.49	0000
000	167805	508.12	.06154	1.49	1.66	1.77	1.95	2.08	2.48	2.77	2.94	000
00	133079	402.97	.07758	1.34	1.52	1.60	1.66	1.86	2.18	2.40	2.57	00
0	105560	319	.09775	1.31	1.40	1.46	1.49	1.71	1.96	2.13	2.25	0
1	83694	253.43	.1234	1.24	1.30	1.34	1.36	1.56	1.75	1.88	1.97	1
2	66373	200.98	.1556	1.18	1.23	1.25	1.26	1.45	1.60	1.70	1.77	2
3	52633	159.38	.1962	1.14	1.17	1.18	1.17	1.35	1.46	1.53	1.57	3
4	41742	126.40	.2473	1.11	1.12	1.11	1.10	1.27	1.35	1.40	1.43	4
5	33102	100.23	.3120	1.08	1.08	1.06	1.04	1.21	1.27	1.30	1.31	5
6	26250	79.49	.3934	1.05	1.04	1.02	1	1.16	1.20	1.21	1.21	6
7	20816	63.03	.4958	1.03	1.02	1	1	1.12	1.14	1.14	1.13	7
8	16509	49.99	.6250	1.02	1	1	1	1.09	1.10	1.09	1.07	8
9	13090	39.60	.7886	1	1	1	1	1.06	1.06	1.04	1.02	9
10	10382	31.40	.9940	1	1	1	1	1.04	1.03	1	1	10



# SAVED FROM DEATH BY ELECTRIC SHOCK

By FREDERICK STRANGE KOLLE, M. D.

From "Standard Wiring" for Electric Light and Power by H. C. Cushing, Jr.



- 1st. Lay the patient on his back.
- 2nd. Move the tongue back and forth in the mouth by seizing it with a handkerchief or the fingers, while working the arms to induce respiration.
- 3rd. Don't pour anything down the patient's throat.
- 4th. Try to cause the patient to gasp by inserting the first and second fingers in the rectum and pressing them suddenly and forcibly toward the back.
- 5th. If possible, procure oxygen gas, and try to get it into the lungs during the efforts at artificial respiration.
- 6th. Get a doctor as quickly as possible.
- 7th. Treat the body as though it had been under water, by trying to obtain artificial respiration.

The above items have been arranged in the manner given, to avoid the immediate necessity of reading that which follows, in cases of emergency. It is quite natural to realize that the victim of shock must be pulled out of circuit or disconnected from the wires carrying the current. To do this, a stick of dry wood, a piece of dry cloth, a coat or soft felt hat, may be used. It will be understood, therefore, that means are taken, more or less familiar to the electrical man, for removing the body from continued danger of this kind the best to use being of course, rubber gloves for this purpose if convenient.

**AIR IN THE LUNGS.**—The patient must be made to breathe **at once**. To accomplish this, lay him on his back with a coat under his shoulders to throw out the chest. Then, lift the arms over the head and back again, until they press against the chest. This process will force air in and out of the lungs, as required. A second person ought to assist in pulling the tongue forward, when the arms are raised above the head, and let it fall back when the arms press against the chest.

**RATE OF BREATHING.**—The rate of breathing produced artificially should be about sixteen times a minute.

**JAWS LOCKED.**—If the jaws are locked by the clenching of the teeth, force them open with a knife or spoon handle, or its equivalent, so that the tongue can be seized and moved as described.

**EFFECT OF TONGUE ON TEETH.**—By rubbing of the lower side of the tongue on the under row of teeth the patient is apt to gasp automatically, and thus fill the lungs with air. The fact that effect of this kind is possible is a good sign, and should be produced at intervals of a few seconds, if possible.

**TIME OF KEEPING UP ARTIFICIAL RESPIRATION.**—The operations indicated should not be discontinued for a long time. In many cases an hour or more is required before the body begins to resume its natural functions, as shown by the beginnings of ordinary breathing.

**THROAT FREE.**—The throat must be free to admit air, when the lungs are inhaling, by the upward movement of the arms. The movement is similar to that transpiring during the process of yawning and stretching the arms above the head. The inhalation must be made as deep as possible, and the operations leading to it continued with systematic care until results are visible. Filling the throat with the back of the tongue at the wrong time, will mean failure. Therefore, the movement of the tongue back and forth must be intelligently performed.

**PAPER CONE FOR OXYGEN GAS.**—An inhaling cone may be made of paper, the larger end over the patient's face, and the smaller end or stem attached to the oxygen tank by means of a piece of rubber pipe. A little oxygen in the lungs causes a strong heart action and operates to revive very quickly.

**FRICTION OF THE LIMBS.**—Rubbing of the body is a secondary means of hastening the blood circulation. The inactivity of the lungs and heart is due to a temporary paralysis or shock caused by the passage of the current. The removal of this condition means resuscitation, part of which process may be carried out by massage of the body and limbs.

**GENERAL CHARACTER OF THE TREATMENT.**—As may have been noted in reading this popular version of the means of assisting recovery from shock by electricity, the general drift is in the direction of getting the patient to breathe and his heart to beat strongly. Other legitimate ways may be tried, but they must not be so heroic as to induce death during so critical a condition. It is better to follow accepted methods than irrational experiments. The above program should be followed out until a physician takes charge of the case.

**FIRST CARE OF BURNS.**—When natural respiration has been restored, burns, if serious, should be attended to until a doctor comes.

A raw or blistered surface should be protected from the air. If clothing sticks, do not peel it off—cut around it. The adherent cloth, or a dressing of cotton or other soft material applied to the burned surface, should be saturated with picric acid (0.5 per cent). If this is not at hand, use a solution of baking soda (one teaspoonful to a pint of water), or the wound may be coated with a paste of flour and water. Or it may be protected with a heavy oil, such as machine oil, transformer oil, vaseline, linseed, caron or olive oil. Cover the dressing with cotton, gauze, lint, clean waste, clean handkerchiefs, or other soft cloth, held lightly in place by a bandage. The same coverings should be lightly bandaged over a dry, charred burn, but without wetting the burned region or applying oil to it.

Do not open blisters.

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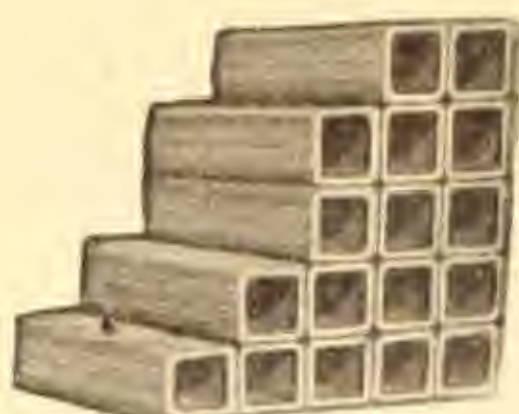
Many manufacturers use the same numbers to identify the various articles in their catalogues. To prevent duplication of these numbers we have assigned a special Trade Number to each article listed in this catalogue. For convenience in identifying articles which are familiarly known by the manufacturer's number, this number is also given in many pages in addition to the Trade Number.

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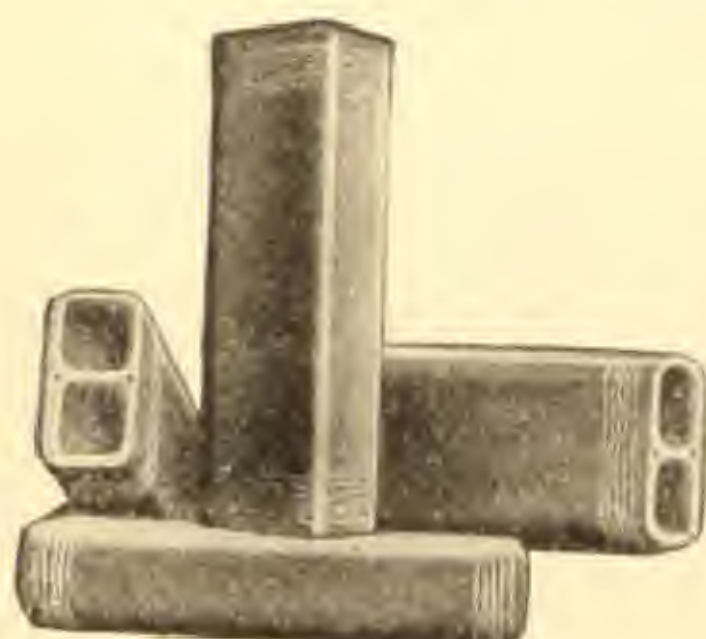
## VITRIFIED CLAY CONDUIT



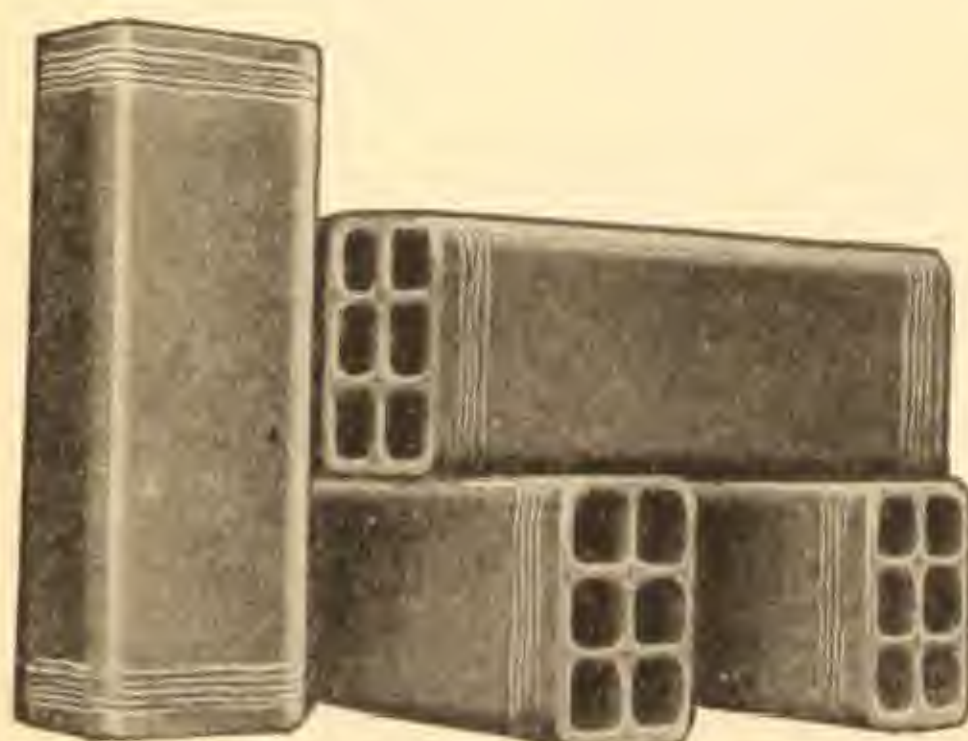
Square Duct, Single



Round Duct, Single



Two-way Multiple



Six-way Multiple

## SINGLE-WAY CONDUIT

This conduit is made of the purest fire clay, salt glazed, and guaranteed to comply rigidly with the American Telephone and Telegraph Company's specifications. We inspect all conduit as it is loaded. Conduit is manufactured in all standard sizes and designs, and includes some special economic forms.

The square duct single is the standard conduit for laying single terminals or building up multiple duct truck lines. The heavy-current singles are made in the same form as the standard single, but are larger and heavier, and designed for the protection of very high service lines for the transmission of power and light.

The round duct single is intended as an economical substitution for the square duct single. Its weight is much less, thus saving on freight. It is especially efficient in building up trunk lines, the beveled corners allowing square interstices between the pieces, thus forming an additional concrete support, and insuring good alignment before and after cable pulling.

## 2-WAY MULTIPLE CONDUIT

Two-way multiple conduit can only be manufactured in 2-foot lengths, and are designed for building up trunk lines to the desired capacity or laying singly in the trench.

## 4-WAY, 6-WAY AND 9-WAY MULTIPLE CONDUIT

Four, 6 and 9-way multiple conduit is the most satisfactory conduit made; strong in the web, straight in line, smooth in the duct, and flat on the ends. This ware is the most economical per duct foot to lay in the trench.

## Square Duct, Single

Trade No.	Mfrs. No.	Length of Piece Feet	Duct Feet in Piece	Wt. per Duct Foot	Duct Diam. In.	Duct Feet Min. Car	Price per Duct Foot
088892	93886	1.5	1.5	10.3	3 1/2	5000	\$0.25
.....	.....	1.5	1.5	15.3	4 1/2	3400	.25

## Round Duct, Single

088894	93158	1.5	1.5	8.3	3 1/4	6249	.25
.....	.....	1.5	1.5	10	4 1/8	5000	.25

## Three Duct, Multiple

.....	.....	2	6	7.7	3 1/4	6493	.25
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## 2-way Multiple

088895	93159	2	4	8.1	3 1/4	5968	.25
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## 4-way Multiple

088898	93162	3	12	6.7	3 1/4	7008	.25
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## 6-way Multiple

088899	93163	3	18	6	3 1/4	7290	.25
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## 9-way Multiple

088900	.....	3	27	5.7	3 1/4	8802	.25
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# Northern Electric Company

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## UNDERGROUND CONDUIT TOOLS

### SCREW RODS



No. R1

No. R1 screw rod is used for removing obstructions. There is no lost motion in a run of 400 to 500 feet from manhole to manhole.

Trade No.	Mfrs. No.	Description	Weight Pounds	Price Each
202571	R1	Screw rod	3 1/4	\$2.50

### MANDRELS

The never miss mandrel is made for both round and square bore ducts. Does away with the old style single loop and hook. Means a sure grip the instant the mandrel rod is inserted and will not drive mandrel into the duct same as common mandrels.



No. 90

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
202572	90	Square	9 3/4	\$3.50
202573	91	Round	9 1/8	2.75

### MANDREL RODS

The mandrel rod is made with a round flat, button head, with a tapering and well finished handle. Button head is sure to connect every time in mandrel. Regarded as a great labor saver and sold only with mandrels.



No. 91

Trade No.	Mfrs. No.	Length Inches	Weight Pounds	Price Each
202574	95	40	1	\$1.10
202575	95	50	1 1/2	1.30
202576	95	72	2	1.60

### CONDUIT RODS

No. 75 and 76 can be quickly connected and disconnected. The thickest part of the casting is precisely where the greatest wear occurs. The coupling is so designed that the four-foot rods may be connected and disconnected with perfect ease in the smaller manholes. Double rivet holes are provided, giving twice the strength on a pulling and also on a twisting strain. The tongue is pierced, permitting the attachment of a pulling cable and also facilitating cleaning the joint if that becomes necessary. A highly finished metal pattern is used for all castings, guaranteeing a true and absolute fit of a part with any other part, allowing perfect interchangeability.



No. 95



Nos. 75 and 76

Trade No.	Mfrs. No.	Length Over All Inches	Wt. Lbs.	Price Each
202577	75	3	2 1/8	\$1.30
202578	76	4	2 3/8	1.40



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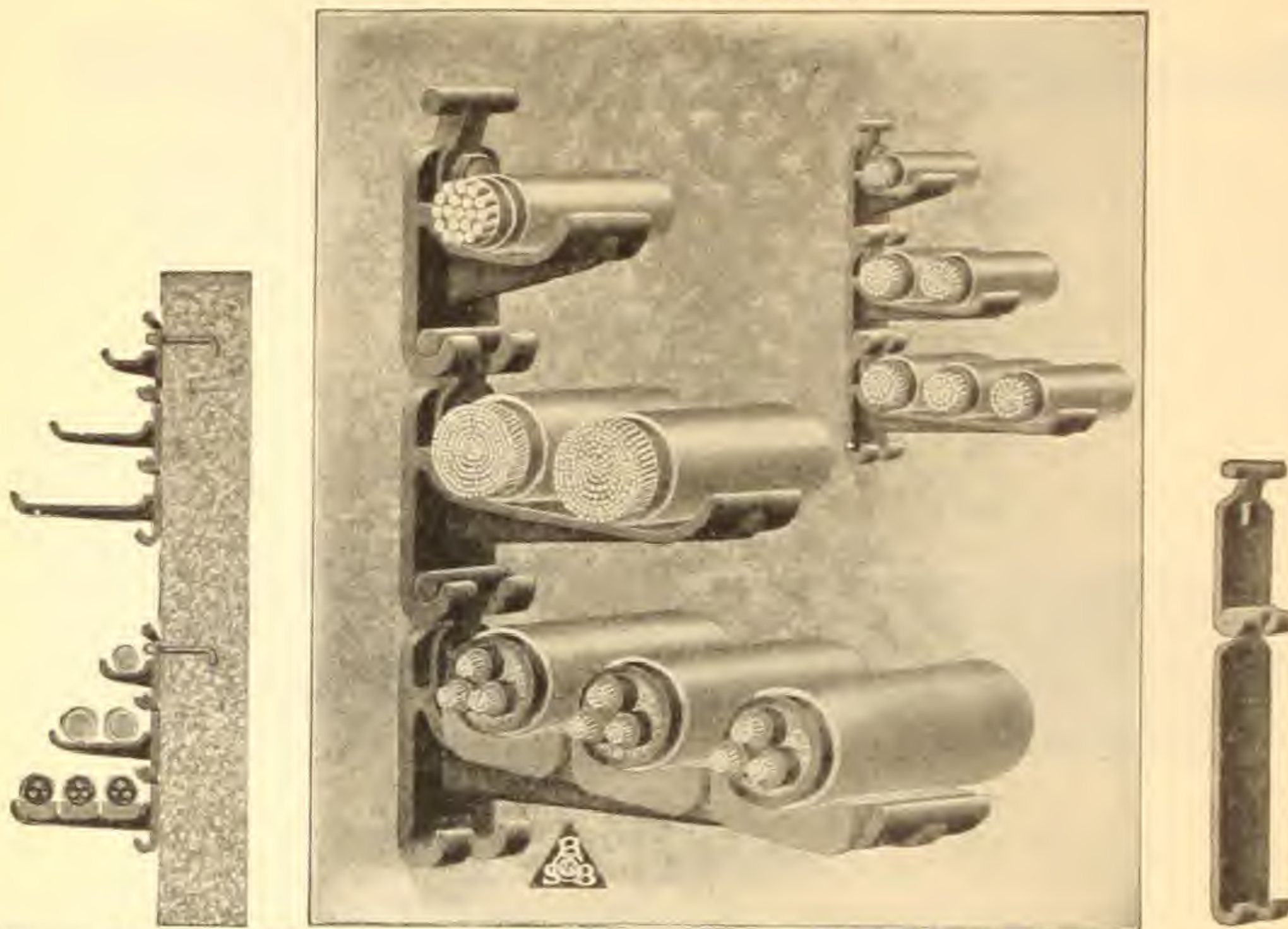
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## CABLE HANGERS AND CONDUIT TOOLS

## CABLE HANGERS



Expansion Bolts in Brick Wall

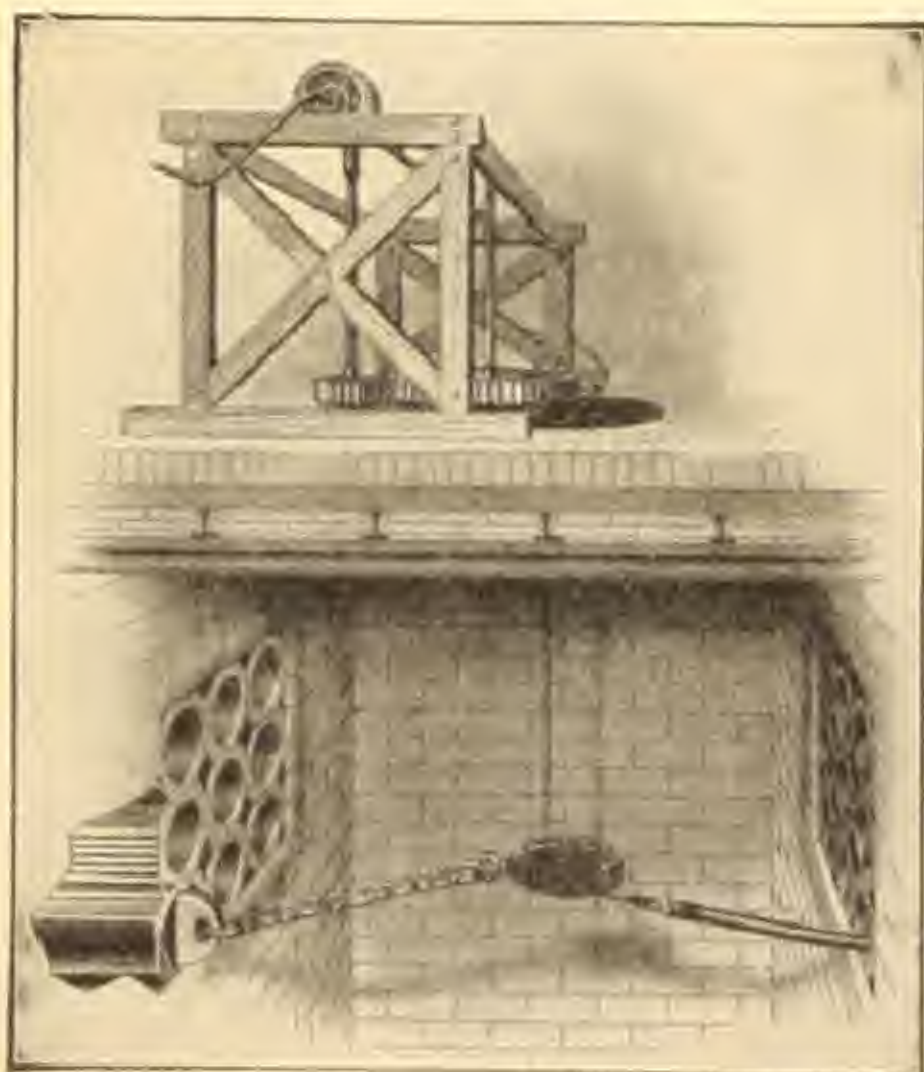
Hangers in Use

Idler

The above cable hangers are made in Jumbo and Baby sizes, the former being designed for supporting cables in manholes, etc. The baby size is designed to use singly on the manhole walls to support laterals. These hangers are interchangeable so that the largest hanger can be placed on top, or in the center if desired.

Jumbo			
Trade No.	Mfrs. No.	Wt. Lbs.	Price Each
202589	1	3 $\frac{5}{8}$	\$0.80
202590	2	5 $\frac{1}{4}$	1.05
202591	3	6 $\frac{1}{2}$	1.35

Baby			
Trade N.	Mfrs. No.	Wt. Lbs.	Price Each
202592	1A	1 $\frac{1}{2}$	\$0.35
202593	1B	3 $\frac{3}{4}$	.41
202594	1C	7 $\frac{1}{8}$	.45



Underground Conduit Tool

## Idlers

Trade No.	Description	Wt. Lbs.	Price Each
202595	Short	1	\$0.60
202596	Long	2	\$1.15

## UNDERGROUND CONDUIT TOOLS

The illustration shows the Hercules expanding anchor bolt in place in the lower duct and opposite the cable coming through the corresponding duct with the snatch block anchored to the bolt, drawing the cable without an upward pull, thus eliminating cable chafing at the mouth of the duct.



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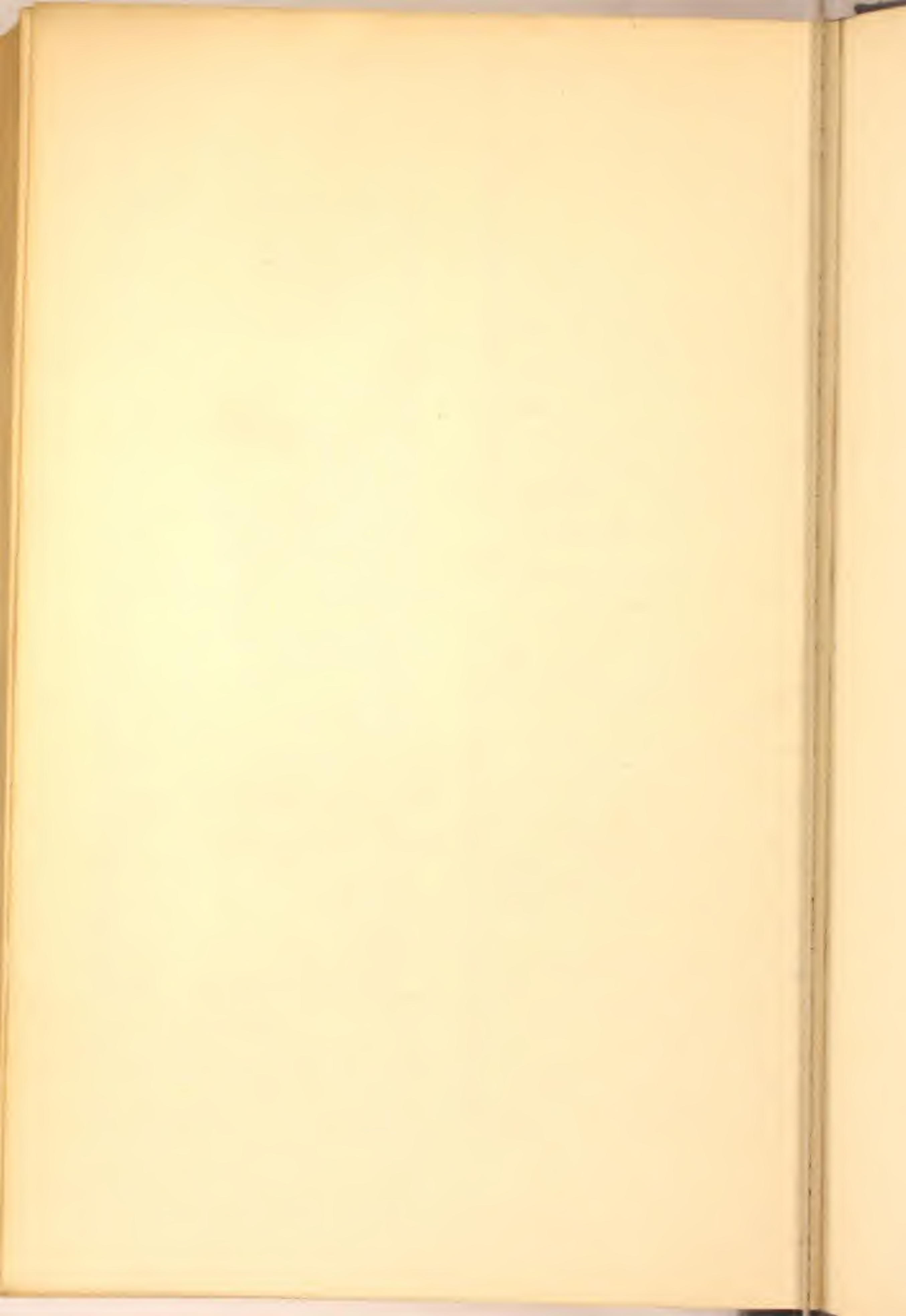
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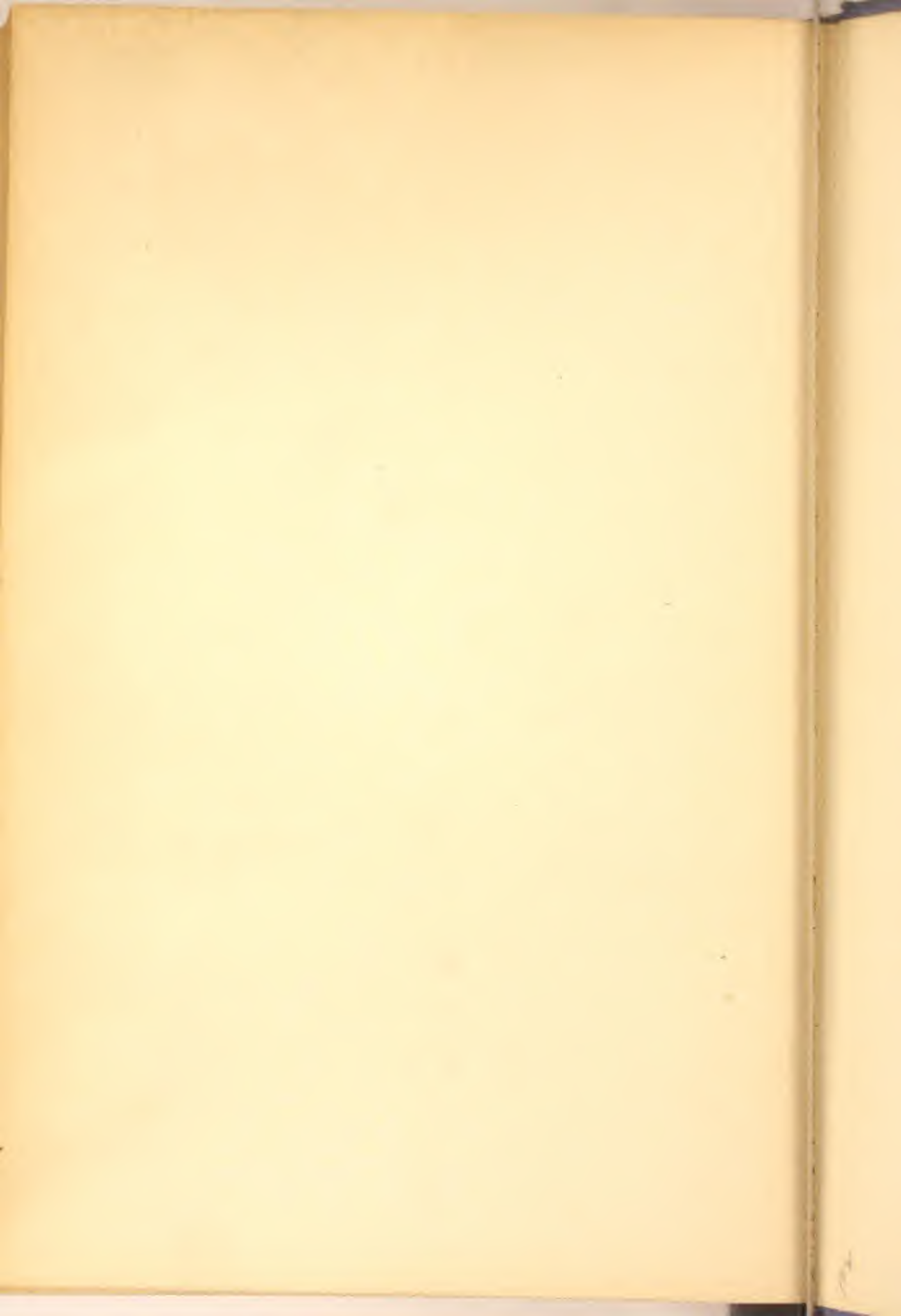


















## UNIVERSAL CABLE GRIPS

Universal Cable Grips are proving their worth each day, by handling millions of feet of all types of aerial and underground cable, in every branch of construction work.

To secure the perfect quality demanded in the standard Universal Cable Grip, only the finest quality of material is used; this, in the hands of skilled workmen, who weave the cable grip by a patented process, enable us to turn out a hand-made tool, that represents the maximum of quality and efficiency.

The Universal Cable Grips are standardized and made in three styles, with a range of sizes that will meet all ordinary requirements.

Universal Single Eye Cable Grips, for attaching the pulling line to the end of a cable.

Universal Double Eye Cable Grips, for pulling slack, or recovering old cable.

Universal Double Eye Split Cable Grips, for shifting a working cable without cutting or interruption to the service.

Every Universal Cable Grip has a brass marker securely fastened to the neck.

### SINGLE EYE CABLE GRIPS



Single Eye Cable Grip				Showing Construction of Eye			
Trade No.	Mfrs. No.	Size Inches	For Cable Diam., In.	Trade No.	Mfrs. No.	Size Inches	For Cable Diam., In.
167143	191701	1/2 x 24	1/2 to 5/8	167151	191709	1/2 x 36	1/2 to 5/8
167144	191702	3/4 x 24	3/4 to 7/8	167152	191710	3/4 x 36	3/4 to 7/8
167145	191703	1 x 24	1 to 1 3/8	167153	191711	1 x 36	1 to 1 3/8
167146	191704	1 1/2 x 24	1 1/2 to 1 7/8	167154	191712	1 1/2 x 36	1 1/2 to 1 7/8
167147	191705	2 x 24	2 to 2 3/8	167155	191713	2 x 36	2 to 2 3/8
167148	191706	2 1/2 x 24	2 1/2 to 2 7/8	167156	191714	2 1/2 x 36	2 1/2 to 2 7/8
167149	191707	3 x 24	3 to 3 3/8	167157	191715	3 x 36	3 to 3 3/8
167150	191708	3 1/2 x 24	3 1/2 to 3 7/8	167158	191716	3 1/2 x 36	3 1/2 to 3 7/8

### DOUBLE EYE PLAIN AND SPLIT CABLE GRIPS



Double Eye Cable Grip

Double Eye Split Cable Grip

Double Eye Plain Cable Grips				Double Eye Split Cable Grip			
167159	191733	3/4 x 18	3/4 to 7/8	167173	191740	3/4 x 24	3/4 to 7/8
167160	191734	1 x 18	1 to 1 3/8	167174	191741	1 x 24	1 to 1 3/8
167161	191735	1 1/2 x 18	1 1/2 to 1 7/8	167175	191742	1 1/2 x 24	1 1/2 to 1 7/8
167162	191736	2 x 18	2 to 2 3/8	167176	191743	2 x 24	2 to 2 3/8
167163	191737	2 1/2 x 18	2 1/2 to 2 7/8	167177	191744	2 1/2 x 24	2 1/2 to 2 7/8
167164	191738	3 x 18	3 to 3 3/8	167178	191745	3 x 24	3 to 3 3/8
167165	191739	3 1/2 x 18	3 1/2 to 3 7/8	167179	191746	3 1/2 x 24	3 1/2 to 3 7/8
Double Eye Split Cable Grip				167180	191761	3/4 x 24	3/4 to 7/8
167166	191754	3/4 x 18	3/4 to 7/8	167181	191762	1 x 24	1 to 1 3/8
167167	191755	1 x 18	1 to 1 3/8	167182	191763	1 1/2 x 24	1 1/2 to 1 7/8
167168	191756	1 1/2 x 18	1 1/2 to 1 7/8	167183	191764	2 x 24	2 to 2 3/8
167169	191757	2 x 18	2 to 2 3/8	167184	191765	2 1/2 x 24	2 1/2 to 2 7/8
167170	191758	2 1/2 x 18	2 1/2 to 2 7/8	167185	191766	3 x 24	3 to 3 3/8
167171	191759	3 x 18	3 to 3 3/8	167186	191767	3 1/2 x 24	3 1/2 to 3 7/8
167172	191760	3 1/2 x 18	3 1/2 to 3 7/8				

### LEATHER COLLARS

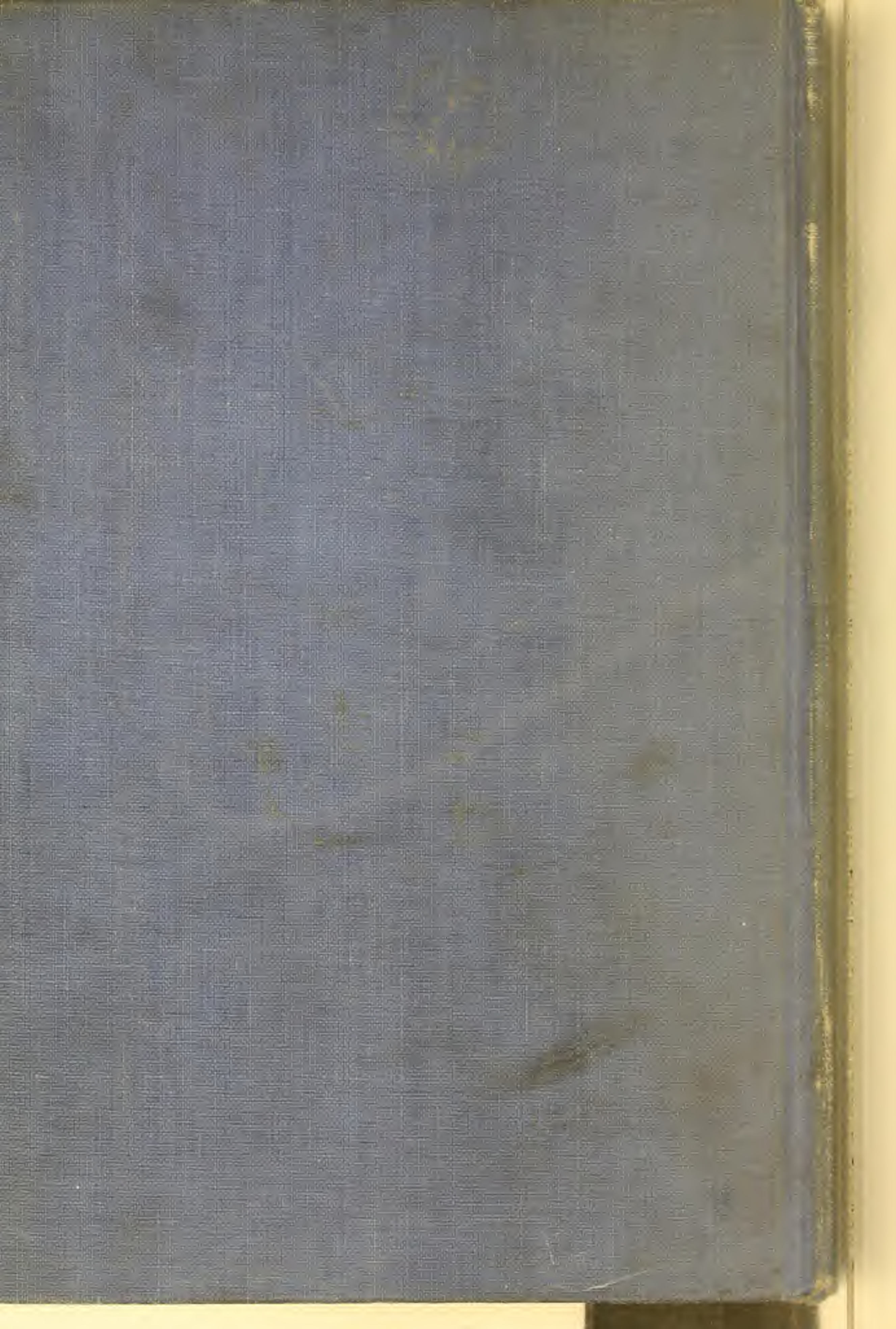
For Single Eye Cable Grips



Leather Collar on Single Eye Cable Grip

Trade No.	Mfrs. No.	Description
167187	191775	For 1-inch Grips
167188	191776	For 1 1/2-inch Grips
167189	191777	For 2-inch Grips
167190	191778	For 2 1/2-inch Grips
167191	191779	For 3-inch Grips
167192	191780	For 3 1/2-inch Grips.





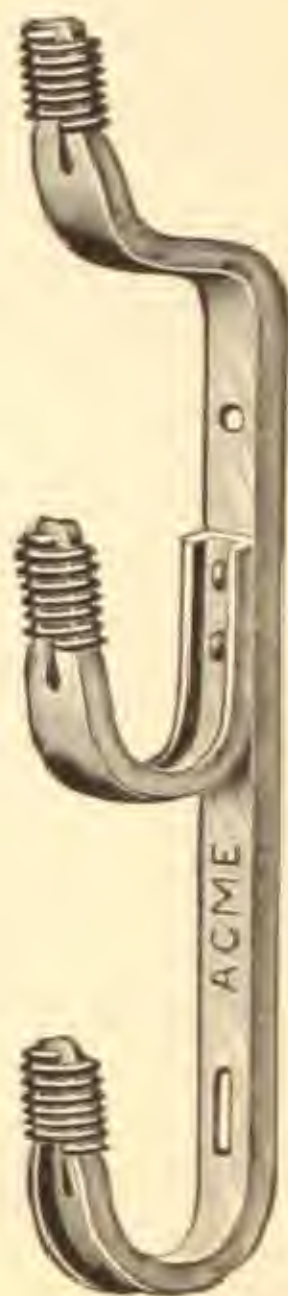


## CHANNEL STEEL BRACKETS

HOT GALVANIZED



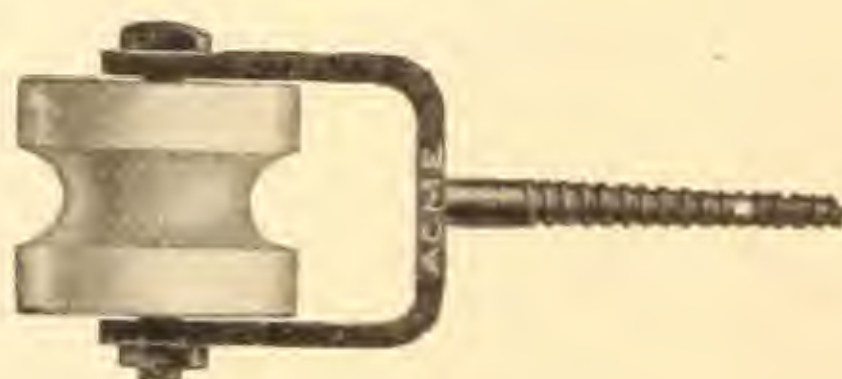
No. A 314



No. A 39



No. A 29



No. A 229



No. A 49

Trade No.	Mfrs. No.	DIMENSIONS, INCHES			Screw Inches	Wire Spacing Inches	Wt., Lbs. per 100	Price per 100
		Extension	Channel	Holes				
202502	A 314	3 1/2	1	..	1/2 x 3	...	81	\$18.00
202503	A 29	4	1 1/4	9/16	...	9	180	30.00
202504	A 39	4	1 1/4	9/16	...	6 1/2	300	55.00
202505	A 49	4	1 1/4	9/16	...	6 1/2	440	80.00
202506	A 229	2	3/4	9/16	5/16 x 2	...	50	10.00

No. 12

No. 13

No. 14

No. 15

The same were The three galvanize but they

Trade No.

120169

120166

120168

120170

120172

120167

120174

120171

120173

120175

120176



# PEIRCE PRESTEEL BRACKETS

HOT GALVANIZED



No. 153



No. 253 1/2



No. 253



No. 353



No. 136



No. 137



No. 138



No. 254 1/2



No. 254



No. 354



No. 154

These New Presteel Brackets are 100 per cent stronger than the channel brackets of the same weight. The pressed steel construction puts the strength where the greatest strain comes. The thread has greater resilience than ever before and cannot lock insulators. They are hot galvanized and this coating preserves their original strength. Excessive strains may bend them but they will never break and let the wires down.

Trade No.	Mfrs. No.	Style	DIMENSIONS, INCHES			Std. Pkg.	Wt., Lbs. per 100	Price per 100
			Extension	Spacing	Size of Holes			
120169	153	Light	4	—	3/2	25	75	\$10 00
120166	136	Light	4	—	3/2	25	60	9 00
120168	138	Heavy	4 1/2	—	3/8	25	100	17 00
120170	154	Heavy	4 1/2	—	5/16	25	100	15 00
120172	253 1/2	Light	4	6 1/2	5/16	20	175	25 00
120167	137	Heavy	4 1/2	—	3/8	25	100	17 00
120174	254 1/2	Heavy	4 1/2	6 1/2	5/16	20	235	33 00
120171	253	Light	4	9	5/16	20	188	26 00
120173	254	Heavy	4 1/2	9	5/16	20	244	35 00
120175	353	Light	4	6 1/2	5/16	20	275	38 00
120176	354	Heavy	4 1/2	6 1/2	5/16	20	350	49 00



## PEIRCE BRACKETS

Hot Galvanized



No. 147



Nos. 148, 149



No. 150



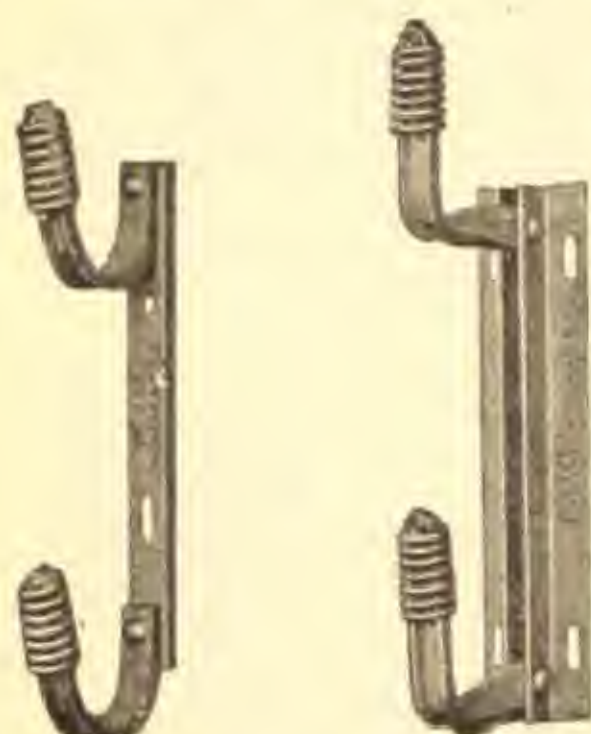
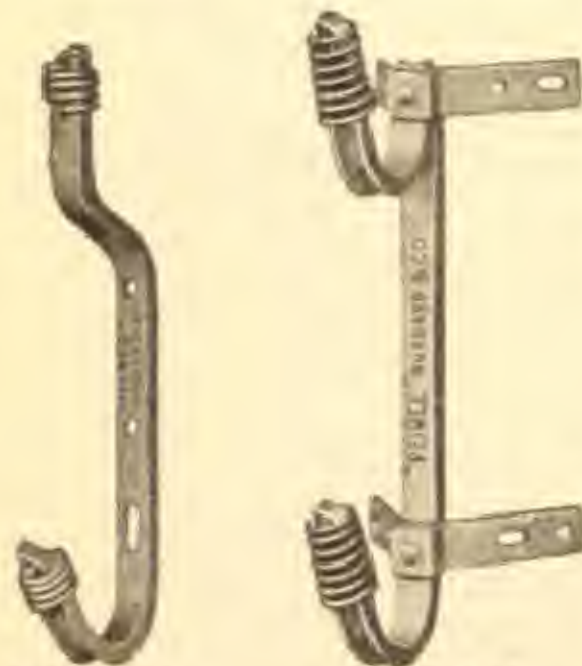
No. 151

No. 241  
No. 341 for 3 Wires  
No. 441 for 4 Wires

## CHANNEL STEEL WALL BRACKETS

Peirce Brackets are made from hot-rolled open-hearth steel channel and angle which, under severe strains, will bend but will never break and let the wires down. The brackets shown with short springs are for telephone wires only, although they may be used on short spans of wires up to No. 6 covered.

Brackets in the 100 series are for single wires, in the 200 series for two wires, in the 300 series for three wires and so on. If a bracket similar to No. 306 is desired for four wires, for instance, a No. 406 should be specified.

No. 203  
No. 303 for  
3 WiresNo. 207  
No. 307 for  
3 WiresNos. 234,  
235, 236No. 242  
No. 342 for  
3 WiresNo. 243  
No. 343 for 3 Wires

No. 500

Trade No.	Mfrs. No.	DIMENSIONS, INCHES		Wire Spacing	Std. Pkg.	Wt. Lbs. per 100	Price per 100
		Exten- sion	Channel Holes				
75003	147	9	1 $\frac{5}{8}$ & $\frac{9}{16}$	...	25	141	\$24.00
75004	148	6	1 $\frac{3}{8}$	...	15	140	25.00
75005	149	6	1 $\frac{3}{8}$	...	15	140	27.00
75006	150	3 $\frac{1}{2}$	1 $\frac{3}{4}$ $\frac{5}{8}$	...	25	74	13.00
75007	151	7 $\frac{1}{2}$	1 $\frac{3}{8}$	...	15	150	24.00
75008	203	3	1 $\frac{3}{4}$ $\frac{5}{8}$	9	20	145	23.00
75012	207	4 $\frac{1}{2}$	1 $\frac{3}{4}$ $\frac{3}{8}$	9	10	250	37.00
75013	234	3 $\frac{1}{2}$	1 $\frac{3}{4}$ $\frac{9}{16}$	8	25	90	17.00
75014	235	3 $\frac{1}{2}$	1 $\frac{3}{4}$ $\frac{9}{16}$	12	25	110	19.00
75015	236	3 $\frac{1}{2}$	1 $\frac{3}{4}$ $\frac{9}{16}$	10	25	143	20.00
75017	241	4 $\frac{1}{2}$	1 $\frac{3}{8}$	7	10	250	41.00
75018	242	3	1 $\frac{3}{4}$ $\frac{5}{8}$	9	20	186	27.00
75019	303	3	1 $\frac{3}{4}$ $\frac{5}{8}$	6 $\frac{1}{2}$	20	225	35.00
75022	307	4 $\frac{1}{2}$	1 $\frac{3}{4}$ $\frac{3}{8}$	6 $\frac{1}{2}$	10	350	51.00
75024	341	4 $\frac{1}{2}$	1 $\frac{3}{8}$	6 $\frac{1}{2}$	10	460	65.00
75025	342	3	1 $\frac{3}{4}$ $\frac{5}{8}$	6 $\frac{1}{2}$	20	261	40.00
75026	441	4 $\frac{1}{2}$	1 $\frac{3}{8}$	6 $\frac{1}{2}$	10	625	83.00

## LIGHT PRESTEEL HORIZONTAL HOUSE BRACKETS

Designed to take the place of the channel steel horizontal brackets Nos. 240 and 241.

Trade No.	Mfrs. No.	Spacing of Points, In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
148141	243	8	20	170	\$23.00
148142	343	6 $\frac{1}{2}$	10	230	35.00

## BRACKET FEET AND CORNER IRONS

For use with Nos. 204, 205, 206, 305 and 306 wall brackets. Make brackets extend 8 inches from wall to get around obstructions such as rain conductors. May also be used on corners. Furnished complete with two stove bolts.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES		Spread of Base Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
		Exten- sion	Channel Holes				
75027	500	4 $\frac{3}{8}$	1x3 $\frac{3}{8}$ $\frac{5}{8}$	10 $\frac{3}{8}$	20	85	\$12.00



## PEIRCE BRACKETS

Hot Galvanized



No. 218



No. 231



No. 230



No. 317



No. 217

### HEAVY PRESTEEL SPREADERS AND BREAK ARMS

These brackets are pressed from No. 9 gauge steel and the cross section of their main body is  $1 \times 1\frac{1}{2}$  inches. They will take the strain of the largest and heaviest services.

The line will be safer and cross-arms will last longer because most of these brackets clamp around the arms, instead of bolting through them. This keeps the arms from splitting and rotting.

The Peirce Spreader Brackets will not break, bend or pull off the arms. They are designed so that the top cross wire clears the line wire. Because of the different sizes used, cross-arm straps cannot be included in bracket prices, but are listed on another page.

The Cow Horn No. 231 is the type of break arm in general use as a circuit breaker on series lighting circuits. It fits any standard cross-arm, by the arrangement of the two bolts with slots and holes in the bracket and in the cross-arm strap.

No. 218 is used either as a break arm or a spreader, bolted to the end of a cross-arm.

No. 230, with the strap as shown, will save the cost of a cross-arm by carrying two extra wires under an arm already filled, or with the strap in the other leg of the angle will act as a break arm.

### SPREADER BRACKETS

Trade No.	Mfrs. No.	Spacing Points, In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
148132	217	13	10	320	\$55.00
148133	317	$6\frac{1}{2}$	10	450	75.00

### BREAK ARMS

148134	231	12	10	465	80.00
148135	218	10	10	300	52.00
148136	230	10	10	300	52.00

The cross arm straps used with Nos. 217, 317 and 230 brackets are the standard  $\frac{1}{2}$ -inch drop-forged steel straps used with Peirce Clamp Pins, and are not included in above prices.



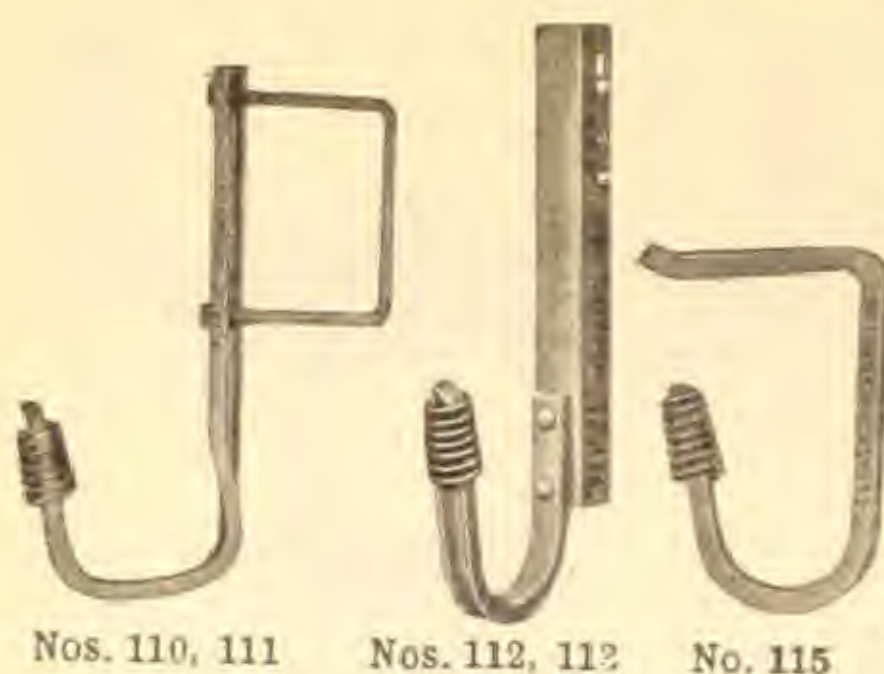
## TRANSPOSITION BRACKETS

## PEIRCE TRANSPOSITION BRACKETS

## Single Point Underhang Brackets

Brackets shown with U bolts are furnished with bolts bent for  $3\frac{1}{4} \times 4\frac{1}{4}$ -inch arms unless otherwise specified, but can be equipped with bolts for any size of arm up to  $4 \times 5$  inches at the same prices.

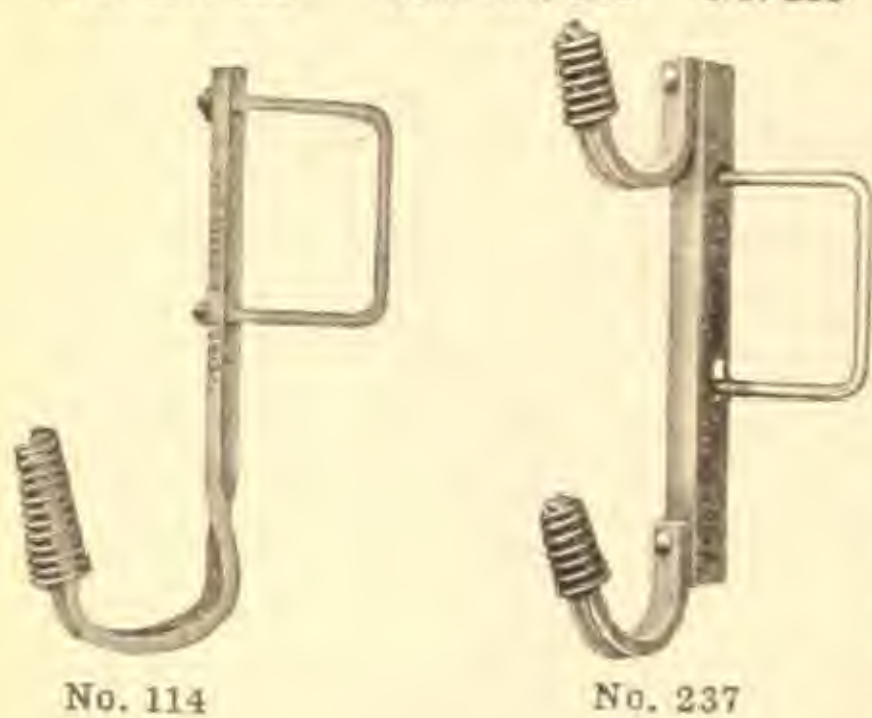
No. 110 is the most popular type for single wires. No. 111 is for the heavier work, and No. 114 for 2-wire transposition insulators. No. 115 bolts to the shank of a  $\frac{1}{2}$ -inch steel pin below the arm and is held by the pin nut. No. 112 is fastened to the cross arm by a  $\frac{3}{8}$ -inch bolt, and No. 113 by a  $\frac{3}{8}$ -inch carriage bolt and a  $\frac{3}{8}$ -inch lag. Both brackets have sharp prongs which prevent rotation around the bolts.



Nos. 110, 111

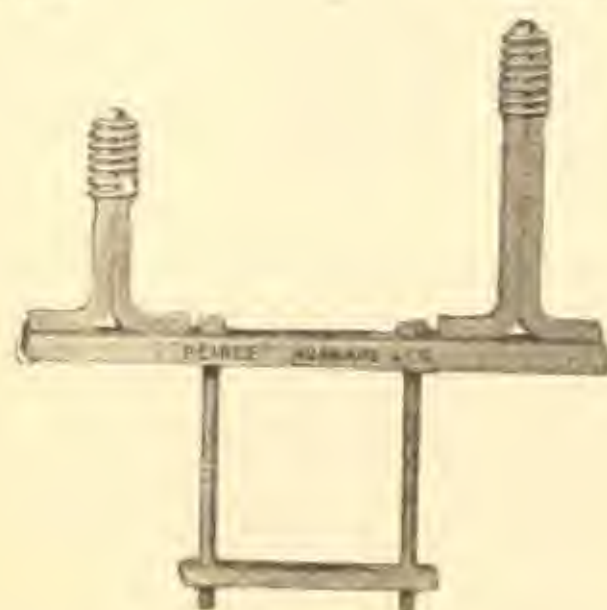
Nos. 112, 113

No. 115

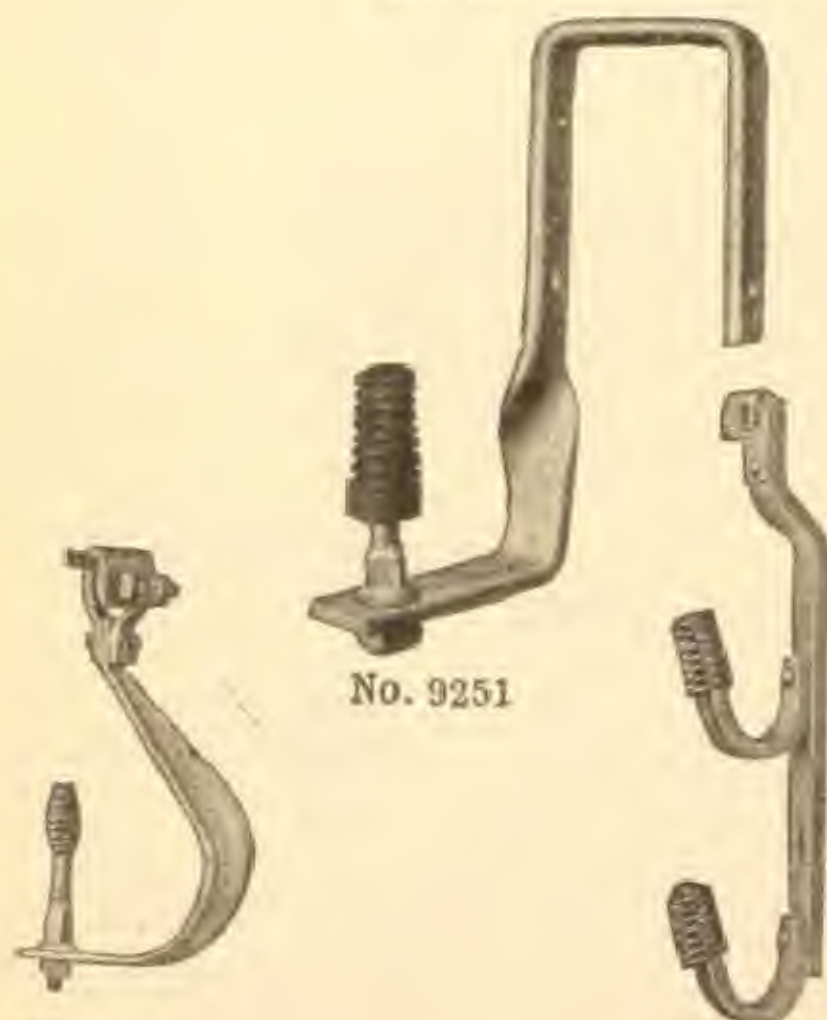


No. 114

No. 237



No. 238



No. 120

No. 9251

No. 220

Trade No.	Mfrs. No.	DIMENSIONS, INCHES			Std. Pkg.	Wt., Lbs. per 100	Price per 100
75101	110	$\frac{3}{4}$	---	$\frac{5}{16}$	25	108	\$22.00
75102	111	1	---	$\frac{3}{8}$	25	170	29.00
75103	112	$\frac{3}{4}$	1	---	25	96	19.00
75104	113	$\frac{3}{4}$	$1\frac{1}{4}$	---	25	156	25.00
75105	114	1	---	$\frac{3}{8}$	25	170	33.00
75106	115	1	---	---	25	135	22.00

## Multipoint Brackets

No. 238 is for the transposition of telephone circuits on long span pole lines. No. 437 is used for transposing the four wires of two toll circuits on which a phantom circuit is connected, and No. 237 for 2-wire transposition. Prices include clamps.

75107	237—2 pt.	$\frac{3}{4}$	1	$\frac{3}{8}$	20	201	34.00
75108	238—2 pt.	$\frac{3}{4}$	$1\frac{3}{4}$	---	10	380	70.00
75109	437—4 pt.	$\frac{3}{4}$	$1\frac{3}{4}$	$\frac{3}{8}$	10	400	70.00

## HUBBARD STANDARD TRANSPOSITION BRACKETS

Nos. 9250 and 9252 are similar to 9251, illustrated except that the Western Union Standard Bracket No. 9250 does not have the  $\frac{3}{8}$ -inch round hole for lagging the bracket to the arm. No. 9251 is the A. T. & T. Co. standard for one wire, and No. 9252 for two wires on a transposition insulator. The Western Union bracket is clamped on the arm by a  $\frac{3}{8} \times 4$ -inch carriage bolt. The A. T. & T. Co. brackets use  $\frac{3}{8} \times 4\frac{1}{2}$ -inch bolts. All have holes for  $\frac{1}{2}$ -inch insulator pins.

Trade No.	Mfrs. No.	Size of Steel Inches	For Cross-arms Size, Inches	Wt., Lbs. per 100	Price per 100
99907	9250	$1\frac{1}{4} \times \frac{5}{16}$	3 x 4	235	\$28.25
99908	9251	$1\frac{1}{4} \times \frac{5}{16}$	$3\frac{1}{4} \times 4\frac{1}{4}$	235	28.25
99909	9252	$1\frac{1}{2} \times \frac{3}{8}$	$3\frac{1}{4} \times 4\frac{1}{4}$	360	36.25

Pins and bolts are not included in price.

## PEIRCE SUSPENSION TELEPHONE BRACKETS FOR STEEL TOWER LINES

## Hot Galvanized

On steel tower transmission lines it is sometimes advisable to carry the telephone circuits on the towers instead of on a separate pole line. This necessitates heavier wires, on account of the longer spans used. If, however, the telephone circuits are supported by these brackets, hung from messenger cables stretched between towers, the length of span is decreased and the usual No. 10 hard drawn copper wire may be used.

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price per 100
75079	120	One-point	540	\$80.00
75080	220	Two-point	200	29.00



## PEIRCE BRACKETS

Hot Galvanized



No. 100



No. 103



No. 104



No. 105



No. 106



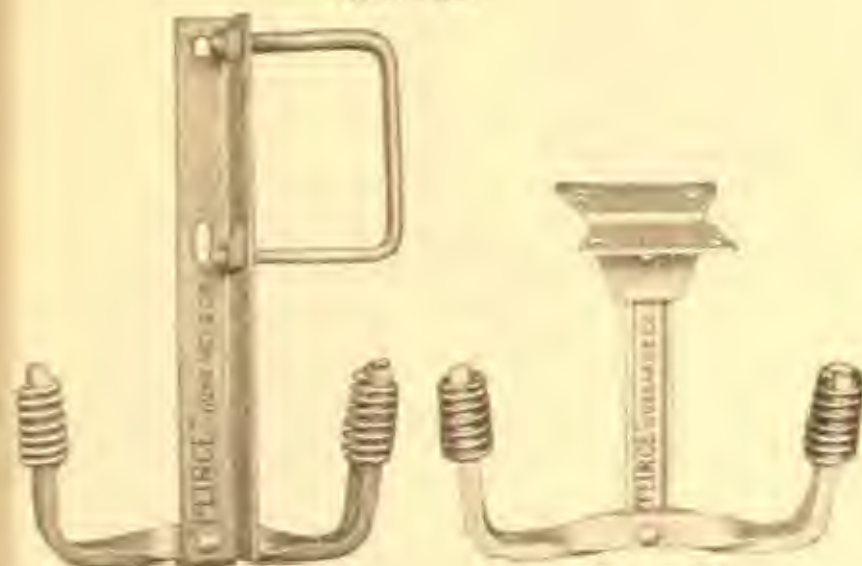
No. 107



No. 200



No. 221



No. 227



No. 229



No. 300



No. 202



No. 301

## CROSS-ARM BRACKETS

Trade No.	Mfrs. No.	—DIMENSIONS, INCHES—			Std. Pkg.	Wt., lbs. per 100	Price per 100	
		Length	Holes	Channel Spacing				
75064	100		$\frac{7}{16}$	$\frac{3}{4}$	25	46	\$10.60	
75066	103		$\frac{7}{16}$	1	25	85	15.00	
75067	104	$8\frac{1}{2}$	$\frac{7}{16}$	$\frac{3}{4}$	25	85	15.00	
75068	105		$\frac{3}{8}$	1	10	180	22.00	
75069	106	5	$\frac{3}{8}$	$\frac{3}{4}$	25	68	12.00	
75070	107	$18\frac{1}{2}$	$\frac{11}{32}$	1	25	164	28.00	
75071	200			1	16	10	216	38.00
75072	221	$9\frac{1}{2}$	$\frac{3}{16}$	$\frac{3}{4}$	8	20	155	30.00
75073	227	$11\frac{1}{2}$		$\frac{3}{4}$	8	20	195	42.00
75074	229	$7\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{4}$	8	10	205	33.00
75075	300			$\frac{3}{4}$	7	10	340	39.00

## SPREADER BRACKETS

Spreader brackets fasten around the arm with the cross-arm straps listed with clamp pins. The ends of straps fit in the long center slot of bracket.

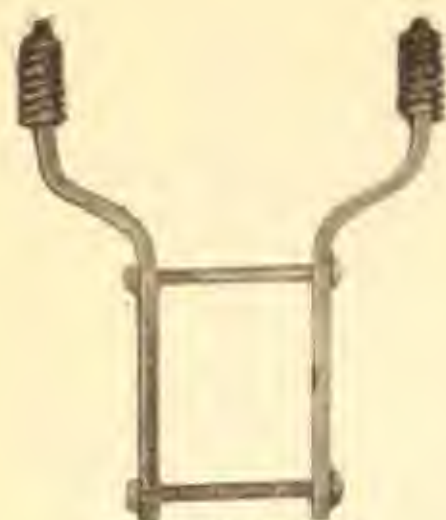
Bracket prices do not include straps.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES				Width of Back Inches	Std. Pkg.	Wt., lbs. per 100	Price per 100
		Extension	Spacing	Channel	Holes				
75051	201	$4\frac{1}{2}$	10	1	$\frac{7}{16}$	$2\frac{1}{2}$	10	290	\$50.00
75052	202	$4\frac{1}{2}$	12	1	$\frac{7}{16}$	$2\frac{1}{2}$	10	375	54.00
75053	301	$4\frac{1}{2}$	$6\frac{1}{2}$	1	$\frac{7}{16}$	$2\frac{1}{2}$	10	390	71.00
75054	302	$4\frac{1}{2}$	$6\frac{1}{2}$	1	$\frac{7}{16}$	$2\frac{1}{2}$	10	450	75.00



## PEIRCE BRACKETS

Hot Galvanized



Nos. 222, 225



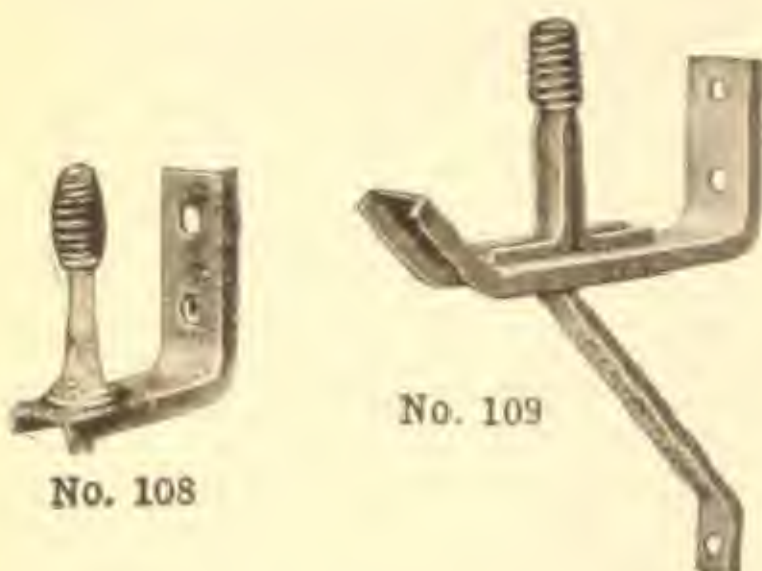
No. 223



No. 224

## BREAK ARMS

Nos. 222, 223 and 225 break arms bolt around the arms and are adjustable to any size of arm between  $3\frac{1}{4} \times 4\frac{1}{4}$  and  $4 \times 5$  inches. No. 224 fits in  $1\frac{1}{2}$ -inch pin hole. Prices include necessary Bolts.



No. 108



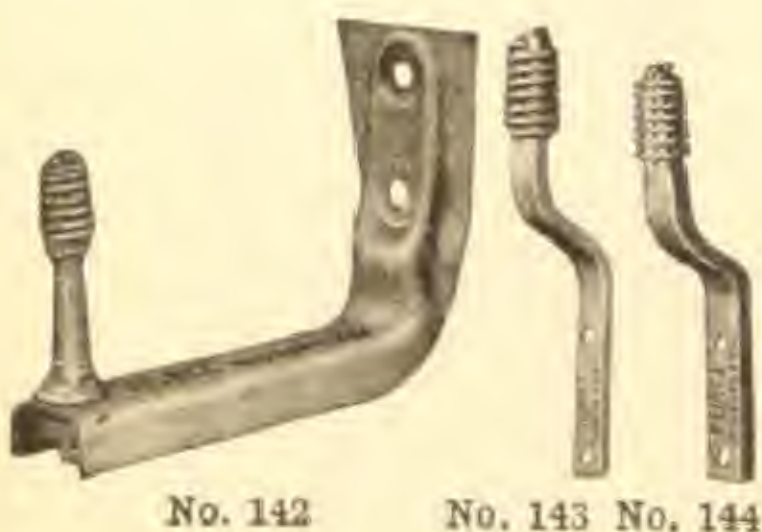
No. 109

Trade No.	Mfrs. No.	DIMENSIONS, INCHES			Std. Pkg.	Wt. Lbs. per 100	Price per 100
75060	222	9	$\frac{3}{4}$	$\frac{3}{8}$	10	160	\$31.00
75061	223	12	1	$\frac{3}{8}$	10	240	38.00
75062	224	12	1	..	20	200	38.00
75063	225	10	1	$1\frac{1}{2}$	10	205	39.00

## POLE BRACKETS

Single-point

Bracket No. 109 is used for supporting electric railway feed wires on poles. Nos. 143 and 144 are extensively used for telephone circuits on transmission line poles. Nos. 108 and 142 have greater extensions from the pole and are suitable for lines of higher voltages.



No. 142



No. 143 No. 144

Trade No.	Mfrs. No.	DIMENSIONS, INCHES				Std. Pkg.	Wt. Lbs. per 100	Price per 100
		Channel	Extension	Spacing	Holes			
75110	108	$1\frac{3}{4}$	4	...	$\frac{9}{16}$	20	186	\$35.00
75111	109	$1\frac{3}{4}$	6	...	$\frac{9}{16}$	10	302	62.00
75114	143	$\frac{3}{4}$	3	...	$\frac{5}{16}$	25	56	7.70
75115	144	1	$3\frac{1}{2}$	...	$\frac{7}{16}$	25	85	13.50
75113	142	{ 10 ga. sheet }	12	...	$\frac{9}{16}$	10	365	75.00

Multipoint

The No. 308 type is a rugged bracket used instead of a Secondary Rack for low voltage circuits of light wire. Nos. 208, 408, 508 and 608 are of the same type but with 2, 4, 5 and 6 points respectively. No. 321 is fastened to the back of the pole, its hump fitting over the head of the cross-arm bolt, and with a spreader bracket on each end of the arm, supports wires carried across the pole. It also serves as a wide base wall bracket for central station service wires.



No. 308



No. 321

75119	208	1	$3\frac{1}{2}$	$6\frac{1}{2}$	$\frac{7}{16}$	20	230	46.00
75116	308	1	$3\frac{1}{2}$	$6\frac{1}{2}$	$\frac{7}{16}$	20	330	66.00
75120	408	1	$3\frac{1}{2}$	$6\frac{1}{2}$	$\frac{7}{16}$	20	440	86.00
75121	508	1	$3\frac{1}{2}$	$6\frac{1}{2}$	$\frac{7}{16}$	20	550	106.00
75122	608	1	$3\frac{1}{2}$	$6\frac{1}{2}$	$\frac{7}{16}$	20	660	126.00
75118	321	$\frac{3}{4}$	$3\frac{1}{2}$	$6\frac{1}{2} \times 9$	$\frac{5}{16}$	20	265	37.00



# PEIRCE WIREHOLDERS

Hot Galvanized



No. 396



No. 394



No. 299



No. 296



No. 191-A



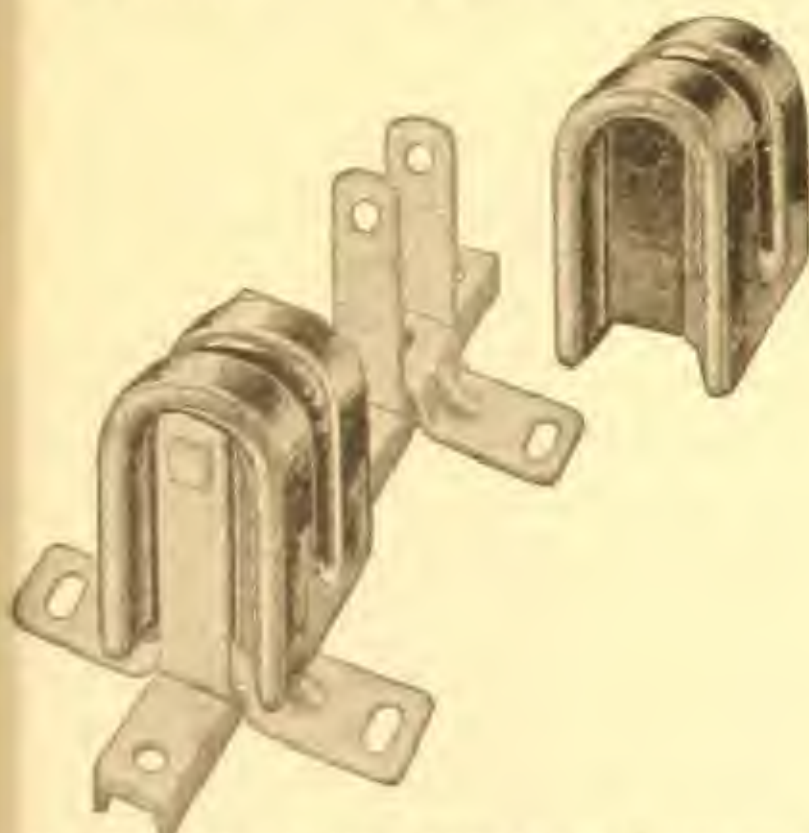
No. 190



No. 191



No. 1602



No. 296 With One Insulator Removed

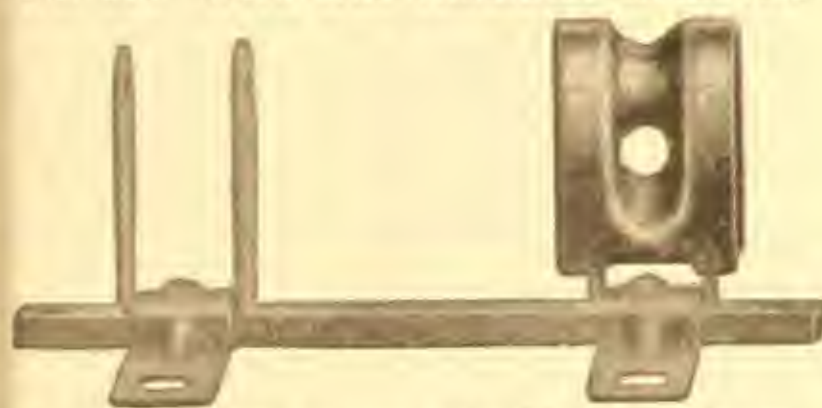
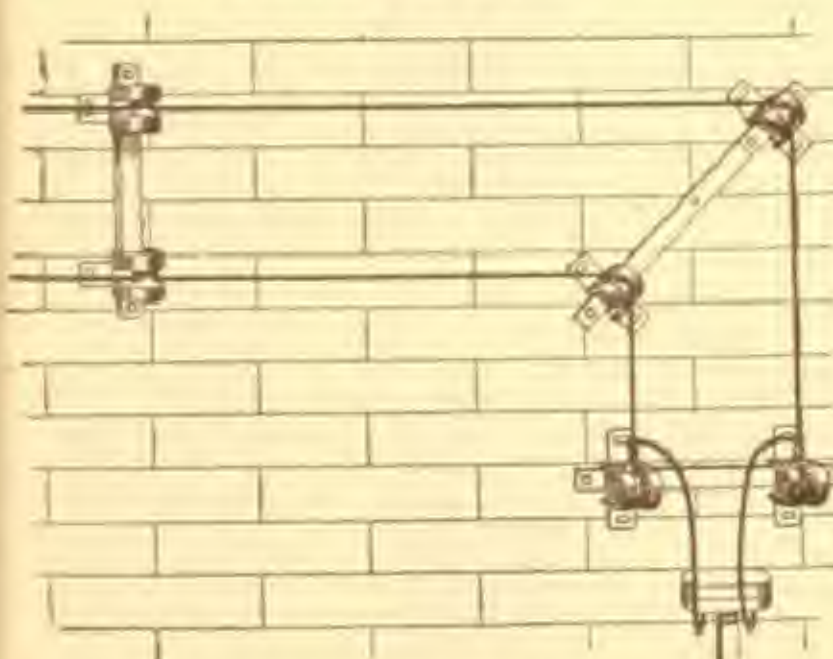


Illustration shows side Chipped from Insulator Disclosing Clearance between Porcelain and Metal



Wiring Diagram Showing Universal Application of Wire Holder

These wall brackets meet all conditions of service wiring on buildings most efficiently and economically. They are safe for a load of 350 pounds on each insulator in any direction.

Insulator drains readily in all positions. Has wet arc test of 1900 volts, giving a large factor of safety for all service voltages.

Insulators can be replaced without removing wire-holder from wall.

For most work no tie wires are required. The line is simply run through the hole in the insulator; or line wire may be run through hole in insulator and tie wire placed in outer groove; or line wire may be placed in outer groove and tie wire run through the hole which is desirable when long runs are made.

These brackets are universal, may be used vertically horizontally or for turning a corner.

**DIMENSIONS:** Distance wire from wall, in hole,  $1\frac{5}{8}$  inches; distance wire from wall, in groove, 3 inches. Fastening holes for  $\frac{5}{16}$ -inch bolts or screws. Back plate,  $\frac{3}{4} \times \frac{3}{8}$ -inch channel. Insulators: width,  $1\frac{5}{8}$  inches; height,  $2\frac{5}{8}$  inches; hole  $\frac{1}{2}$  inch; groove  $\frac{1}{2}$  inch.

Trade No.	Mfrs. No.	No. of Wires	Wire Spacing Inches	Std. Pkg.	Wt. Lbs. per 100	Price per 100	
165210	190	1	....	50	110	\$18.50	
165211	191	1	....	50	96	17.00	
165212	191-A	1	....	25	85	17.00	
165213	296	2	6	25	202	35.00	
165214	299	2	9	25	221	35.50	
165215	396	3	6	25	293	53.50	
165216	394	3	4½	25	275	53.00	
165217	1602	Insulators only ....			100	....	11.00

Brackets are furnished complete assembled with insulators.



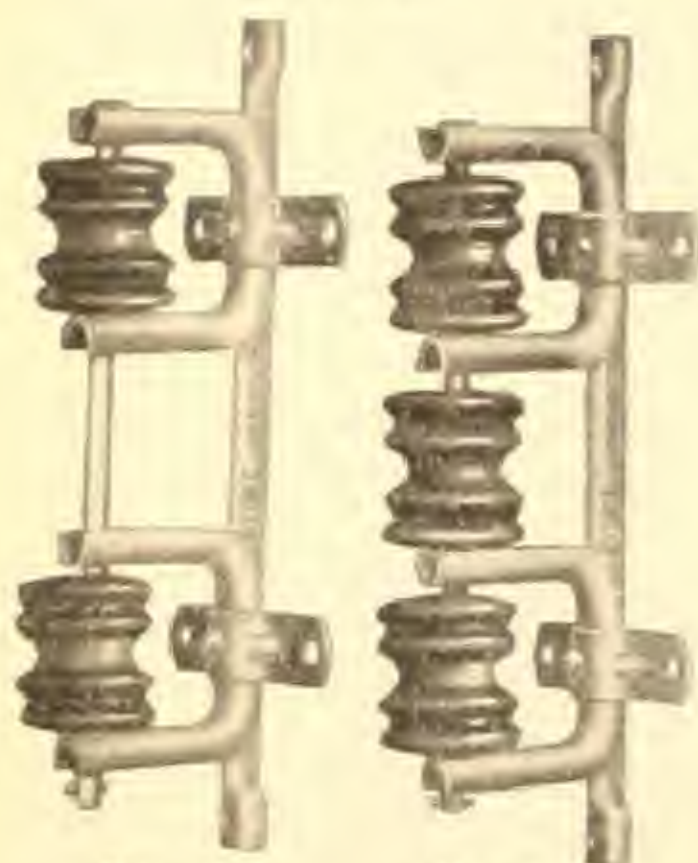
## PEIRCE BRACKETS

Hot Galvanized

## LIGHT PRESTEEL SECONDARY RACKS

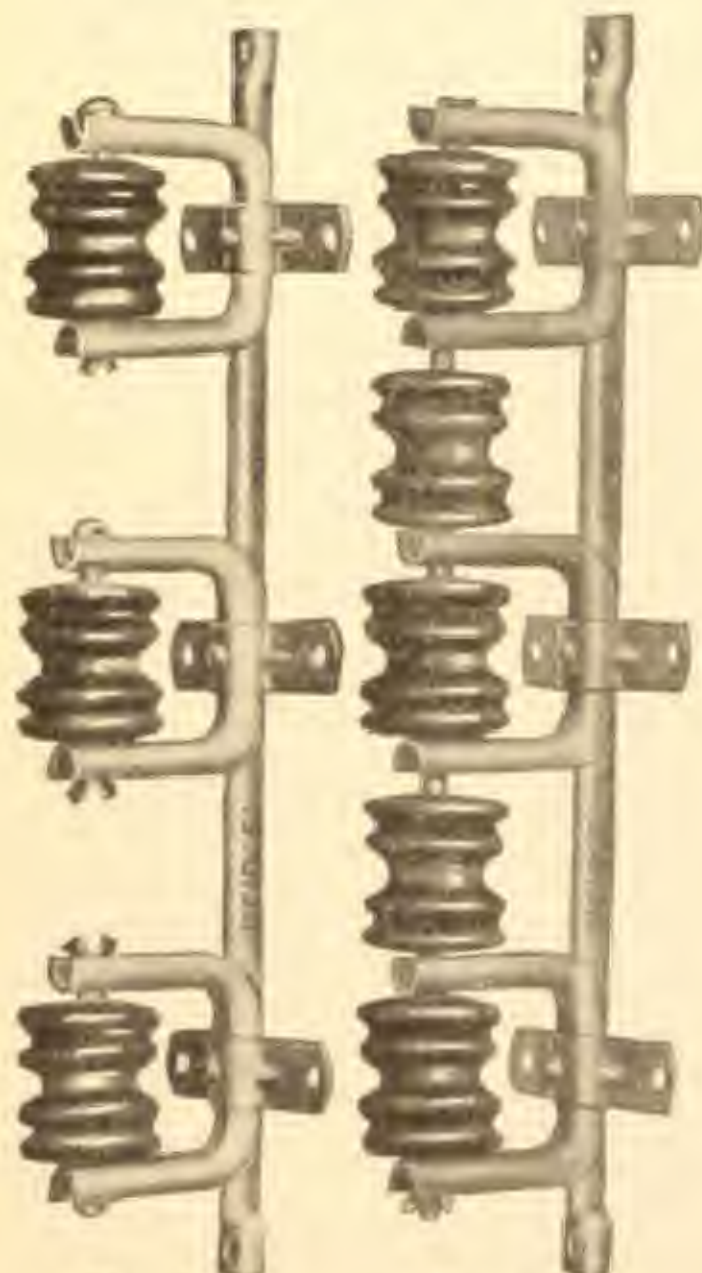


No. 183



No. 286

No. 383



No. 386

No. 583

The Presteel Rack is a lighter form of the well-known No. 350 Peirce Secondary Rack. It is designed to carry No. 3 and lighter wire secondary mains on poles and service wires on buildings, work which does not require the strength of the heavy rack.

Experience has definitely settled three principles of bracket construction:

First.—That the original Peirce Rack, using spool insulators, is stronger and cheaper for heavy wires than cross-arms or pin-type brackets.

Second.—That steel is the only safe and dependable material for brackets because it is free from flaws, and will not break and let the wires down.

Third.—That the Presteel method of construction makes the strongest brackets because each part is pressed out of sheet steel which allows it to be cut so as to give the most metal just where the greatest strength is needed.

By combining the original spool insulator design with the Presteel construction, the strength of the spool insulator rack is obtained for lighter lines at a cost which is actually lower than that of most pin-type brackets.

For carrying secondary mains on poles, in place of wood cross-arms, Presteel Racks save both money and trouble. They cost about one-fourth as much as cross-arms when arm replacements are allowed for, and central station records show that service connections cost less to make. The vertical arrangement of wires on secondary racks is neat and inconspicuous, and in many cases its use has quieted the public's demand for the removal of poles.

As service wire brackets on buildings, Presteel Racks are actually cheaper than any but the lightest kind of house brackets, so service wires can be taken as they run, light and heavy, and it is not necessary to carry several different kinds of brackets in stock.

Trade No.	Mfrs. No.	No. of Line Wires	Wire Spacing Inches	Length Over All Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
148117	183	1	0	6	10	125	\$17.00
148118	286	2	6	12	10	250	40.00
148119	383	3	3	12	10	310	47.00
148120	386	3	6	18	10	375	59.00
148121	583	5	3	18	10	495	73.00



## PEIRCE BRACKETS

Hot Galvanized

### SECONDARY RACKS

Secondary racks take the place of secondary cross-arms. On them, the party secondary circuits are strung with the wires in vertical instead of horizontal alignment, thus allowing the taking off of service wires without crossing of wires and without the aid of buck arms or spreader brackets.

The rack arms are pressed from sheet steel and have the same strength as the double channel arms previously used, but give better alignment and a smoothly rounded top surface, allowing insulated wires to be pulled in over them without injuring the insulation.

The width of the back of the rack is  $2\frac{3}{4}$  inches with a slot  $\frac{3}{4}$  inch wide between the two angles which allows the use of  $\frac{3}{8}$ -inch through or lag bolts for fastening the rack to the pole. The side slots in the back angles are  $\frac{1}{2} \times 1$  inch and are used in fastening the rack to buildings, etc., with  $\frac{3}{8}$ -inch and smaller expansion bolts, lags or wood screws. The distance from the side of the pole to the center of the insulators of the standard rack is 4 inches. Special racks for any desired number of wires, spacing or extension from the wall can be furnished promptly.

Trade No.	Mfrs. No.	No. of Wires	DIMEN., IN.		Std. Pkg.	WITHOUT INSULATORS		WITH INSULATORS	
			Line Spacing	Length Over All		Wt., Lbs. per 100	Price per 100	Wt., Lbs. per 100	Price per 100
75152	250	2	4	$8\frac{3}{4}$	10	360	\$56.00	560	\$72.00
75153	350	3	4	$12\frac{3}{4}$	10	500	75.00	800	99.00
75154	450	4	4	$16\frac{3}{4}$	10	620	96.00	1020	128.00
75160	540	5	4	$20\frac{3}{4}$	10	740	115.00	1240	155.00
75161	258	2	8	$12\frac{3}{4}$	10	500	75.00	700	91.00
75162	358	3	8	$20\frac{3}{4}$	10	740	115.00	1040	139.00

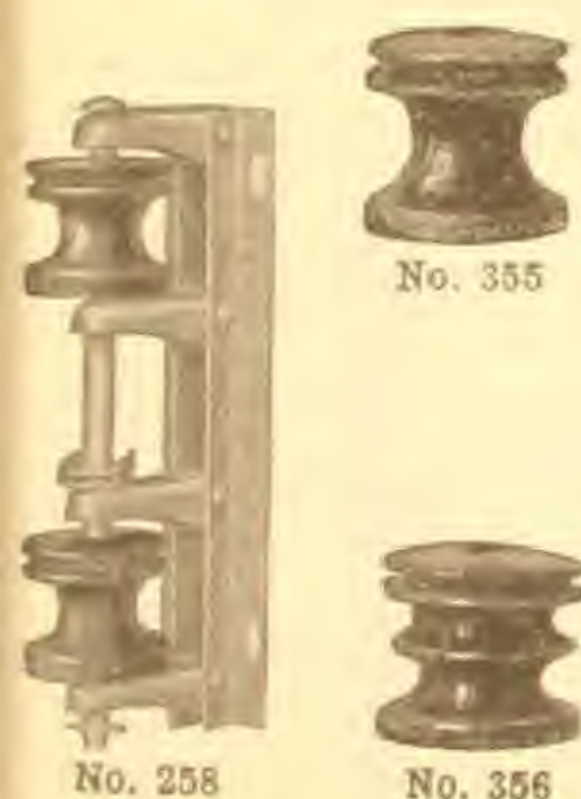
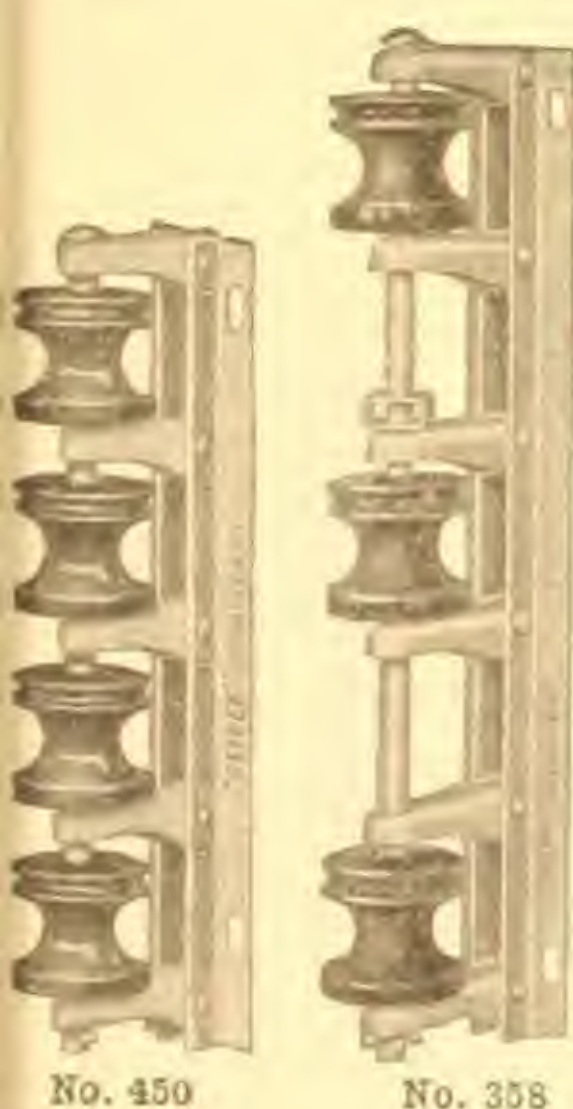
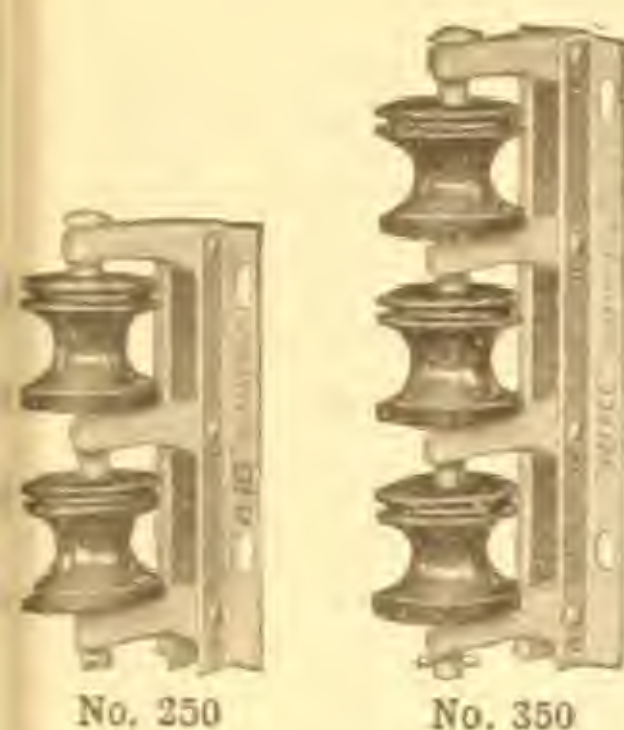
### Insulators for Secondary Racks

Insulators furnished with the above racks are of the best grade of porcelain, brown glazed. The standard insulator has one large groove which will take six No. 0 weatherproof service wires. Its under surface is grooved to give a petticoat insulating surface.

The special insulator, No. 356, has two large grooves, one for tying in the main circuit and the other for the service wires. This special double grooved insulator can be furnished on orders, if specified.

All insulators for Peirce Racks are packed in corrugated paper compartment boxes holding 30, 50 and 100 insulators. Breakage and chipping is thereby positively eliminated, and the insulators are handled and stored more conveniently and with less expense than under the old method of packing in barrels.

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price per 100
75158	355	Standard single groove . . . . .	100	\$8.00
75159	356	Special double groove . . . . .	115	9.00

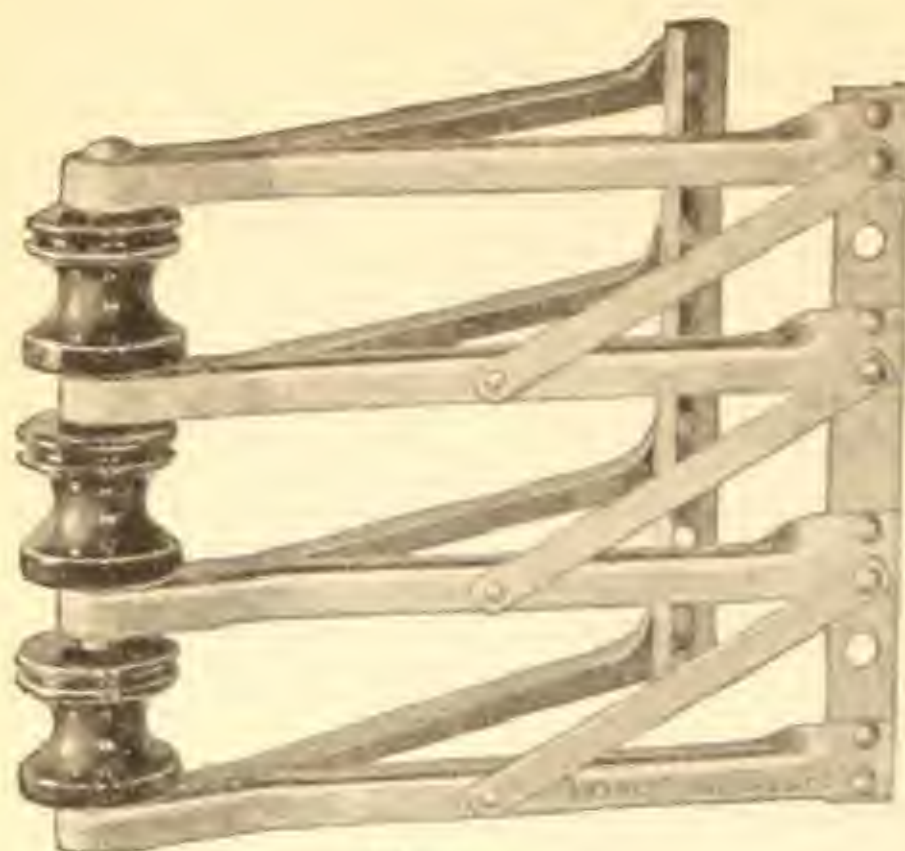




## PEIRCE BRACKETS

Hot Galvanized

## EXTENSION SECONDARY RACKS



No. 351

In some localities local or state regulations demand that no wire be nearer to the center of the pole than 13 inches, and to meet this condition, these extension racks have been developed.

This type of rack is also usable on joint pole lines where pole room is scant, and it is desired to run the secondary mains past a transformer and on the same level as the transformer instead of above or below it.

The rack is fastened to the pole by four lag screws, and is rigidly braced against strains in any direction.

The extension from the center of pole to the center of insulators is 14 inches and the opening of the base is 8 inches. The legs have enough spring to allow them to be used on any size pole. The holes in the base are  $\frac{1}{8}$  inch for  $\frac{5}{8}$ -inch or  $\frac{1}{2}$ -inch lags.

Trade No.	Mfrs. No.	No. of Line Wires	DIMENS., Inches Spacing	Inches Length Over All	Std. Pkg.	WITHOUT INSULATORS		WITH INSULATORS	
						Wt., Lbs. Per 100	Price Per 100	Wt., Lbs. Per 100	Price Per 100
75155	251	2	4	8 $\frac{3}{4}$	5	735	\$110.00	935	\$126.00
75156	351	3	4	12 $\frac{3}{4}$	5	1100	150.00	1400	174.00
75157	451	4	4	16 $\frac{3}{4}$	5	1245	186.00	1645	218.00
120151	541	5	4	20 $\frac{3}{4}$	5	1500	222.00	2000	262.00
120152	259	2	8	12 $\frac{3}{4}$	5	1000	150.00	1200	166.00
120153	359	3	8	20 $\frac{3}{4}$	5	1500	222.00	1800	246.00

## EXTENSION BRACKETS FOR SECONDARY RACKS



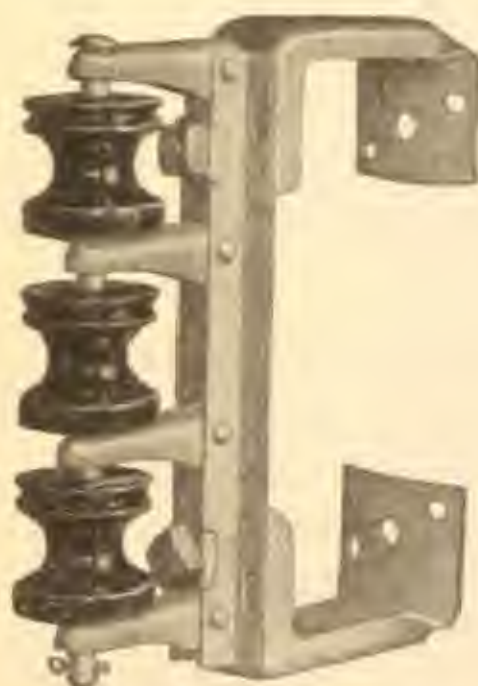
No. 3355

By the addition of a pair of these extension brackets, any one of the standard secondary racks listed on preceding page may be converted in a moment from a 4 to a 10-inch extension from the face of the pole or wall. This allows the line wires to clear transformers, water spouts, or other wires, and to comply with regulations specifying a minimum wire clearance of 13 inches from the line wires to the center of the pole.

The brackets are made in two styles, with flat and with curved backs, for wall and pole use, respectively. The curved back type has one  $\frac{1}{8}$ -inch hole for a  $\frac{5}{8}$ -inch through bolt and two  $\frac{3}{8}$ -inch holes for  $\frac{1}{2}$ -inch lag screw.

The flat back bracket has one  $\frac{3}{8}$ -inch and two  $\frac{5}{8}$ -inch holes for  $\frac{1}{2}$ -inch and  $\frac{1}{4}$ -inch Peirce Expansion Bolts.

Brackets are made of No. 9 gauge steel, are 6 inches long, have a 4-inch bearing on the pole or wall, and are each equipped with a  $\frac{5}{8}$ x2-inch carriage bolt.

No. 350 Rack Equipped  
with a Pair of  
No. 3355 Brackets

Trade No.	Mfrs. No.	Description	Wt., Lbs. Per 100 Pairs	Price Per 100 Pairs
120154	3355	Curved back, for poles	430	\$48.00
120155	3356	Flat back, for walls...	430	48.00



## PEIRCE PINS

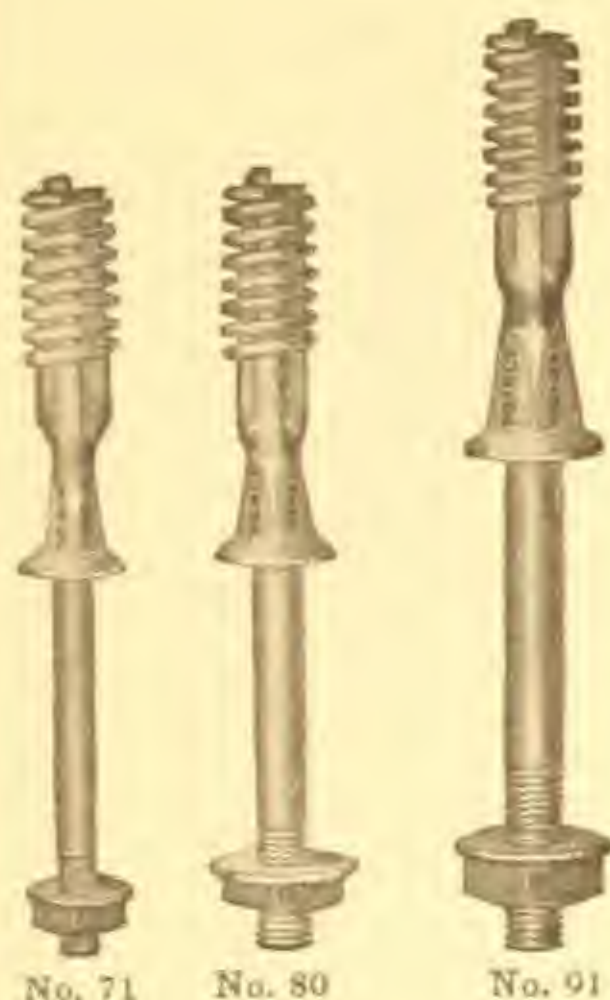
HOT GALVANIZED

### PEIRCE FORGED STEEL PINS

WITH 1-INCH SPRING THREAD

These pins are forged from open hearth steel and have a new design of Peirce Steel Spring Thread, which although firmly locked against removal from the pin, provides for expansion and contraction throughout the length instead of the cross section of the opening and thus eliminates insulator breakage due to changes in temperature. The spring has an extra coil on top of the pin which acts as a cushion, insuring a firm support for the insulator.

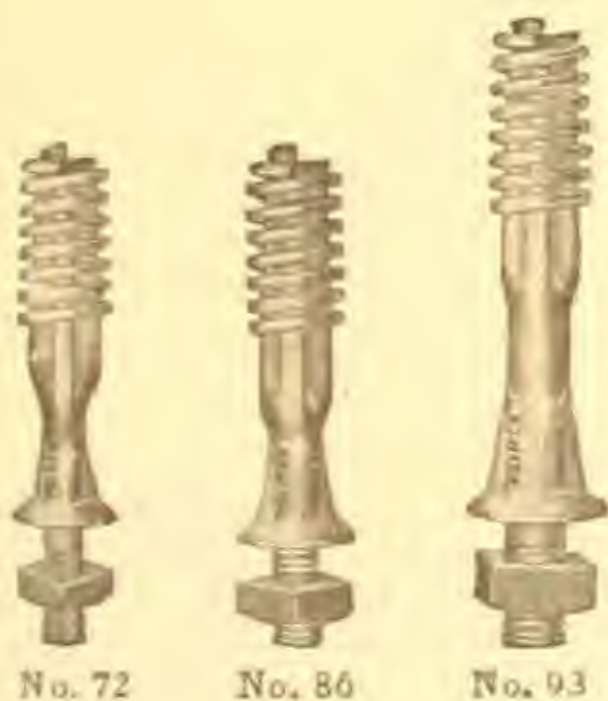
The  $\frac{1}{2}$ -inch forged pin stands a load of 1000 pounds applied at the wire groove of a D. P. D. G. insulator with a deflection of less than 10 degrees and the  $\frac{5}{8}$ -inch and  $\frac{3}{4}$ -inch pins,  $4\frac{3}{4}$  inches above the arm, 1700 pounds and 2300 pounds, respectively.



No. 71 No. 80 No. 91

#### Long Shank Type, for Wood Cross-arms

Trade No.	Mfrs. No.	Diam. Inches	Length, Inches			Wt., Lbs. per 100	Price per 100
			Above Shoulder	Below Shoulder	Total		
75251	71	$\frac{1}{2}$	$4\frac{3}{4}$	$4\frac{3}{4}$	$9\frac{1}{2}$	81	\$7.50
75252	74	$\frac{1}{2}$	$4\frac{3}{4}$	$5\frac{1}{2}$	$10\frac{1}{4}$	86	8.50
75253	80	$\frac{5}{8}$	$4\frac{3}{4}$	$4\frac{3}{4}$	$9\frac{1}{2}$	115	11.00
75254	81	$\frac{5}{8}$	$4\frac{3}{4}$	$5\frac{1}{2}$	$10\frac{1}{4}$	122	11.75
75255	81A	$\frac{5}{8}$	$4\frac{3}{4}$	$6\frac{1}{2}$	$11\frac{1}{4}$	129	12.50
75256	82	$\frac{5}{8}$	6	$4\frac{3}{4}$	$10\frac{3}{4}$	126	12.00
75257	84	$\frac{5}{8}$	6	$5\frac{1}{2}$	$11\frac{1}{2}$	132	12.50
75258	83	$\frac{5}{8}$	6	$6\frac{1}{2}$	$12\frac{1}{2}$	140	13.00
75292	90A	$\frac{3}{4}$	$4\frac{3}{4}$	$5\frac{3}{4}$	$10\frac{1}{2}$	177	17.00
75259	95	$\frac{3}{4}$	6	5	11	183	16.75
75260	90	$\frac{3}{4}$	6	$5\frac{3}{4}$	$11\frac{3}{4}$	192	18.00
75261	91	$\frac{3}{4}$	6	$6\frac{3}{4}$	$12\frac{3}{4}$	205	18.50



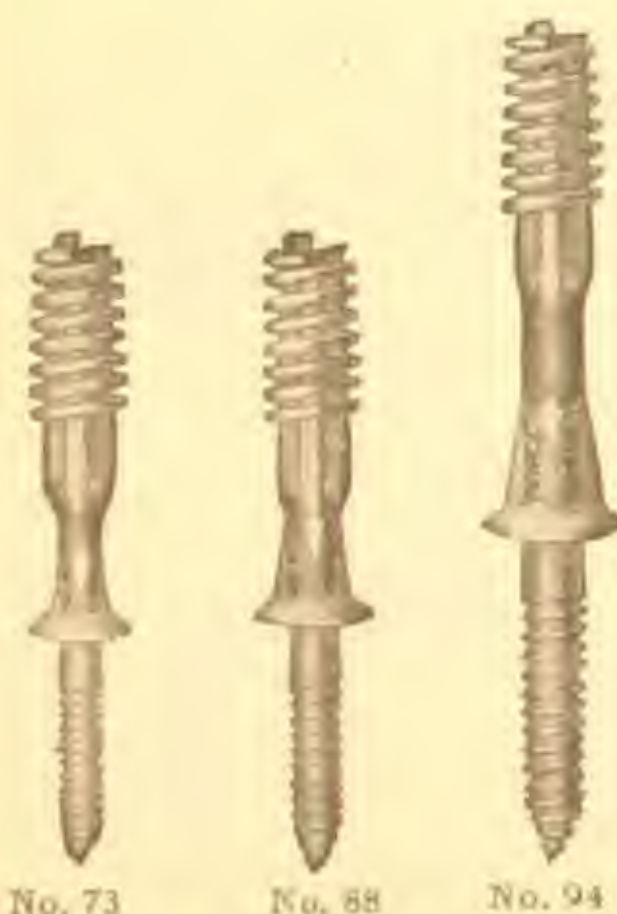
No. 72 No. 86 No. 93

#### Short Shank Type, for Steel Cross-arms

75262	72	$\frac{1}{2}$	$4\frac{3}{4}$	$1\frac{1}{4}$	6	54	7.35
75263	86	$\frac{5}{8}$	$4\frac{3}{4}$	$1\frac{1}{4}$	6	85	10.00
75264	87	$\frac{5}{8}$	6	$1\frac{1}{4}$	$7\frac{1}{4}$	96	10.75
75293	93A	$\frac{3}{4}$	$4\frac{3}{4}$	$1\frac{1}{2}$	$6\frac{1}{4}$	107	13.50
75265	93	$\frac{3}{4}$	6	$1\frac{1}{2}$	$7\frac{1}{2}$	123	14.50

#### Lag Screw Type, for Poles

The Nos. 73, 88 and 94 pins with lag screw shanks are being largely used wherever attachments of vertical runs of wires down the poles are necessary, as in feeders to arc and series lamps, signal wires, etc.



No. 73 No. 88 No. 94

75266	73	$\frac{1}{2}$	$4\frac{3}{4}$	3	$7\frac{3}{4}$	65	7.35
75267	88	$\frac{5}{8}$	$4\frac{3}{4}$	3	$7\frac{3}{4}$	88	11.50
75268	89	$\frac{5}{8}$	$7\frac{1}{2}$	4	$11\frac{1}{2}$	120	13.00
75269	94	$\frac{3}{4}$	6	4	10	130	16.00
75294	94A	$\frac{3}{4}$	$4\frac{3}{4}$	4	$8\frac{3}{4}$	114	14.00



## STEEL PINS AND RIDGE IRONS

## STEEL PINS WITH PARAFFINED ALL WOOD TOPS



TRADE NUMBER With Plain Bolt	With Galv. Bolt	Mfrs. No.	DIMENSIONS, INCHES			Size of Bolt, In.	Wt., Lbs. per 100	Price per 100
			Diam. of Top	Diam. of Base	Length of Wood Top			
42286	42301	10	1	1 1/8	4 1/2	1/2 x 5 1/2	55	\$9.50
42287	42302	11	1	1 1/8	4 1/2	1/2 x 9 1/2	77	11.60
42288	42303	20	1	2 1/4	5 1/2	1/2 x 6 1/2	70	10.30
42289	42304	21	1	2 1/4	5 1/2	1/2 x 10 1/2	90	12.40
42290	42305	22	1	2 1/4	5 1/2	1/2 x 11 1/2	97	12.90
42291	42306	30	1 3/8	2 1/4	4	5/8 x 9	117	15.00
42292	42307	40	1 3/8	2 1/4	4 1/2	5/8 x 10 1/2	132	16.50
42293	42308	50	1 3/8	2 1/4	5 1/2	5/8 x 10 1/2	142	16.80
42294	42309	60	1 3/8	2 1/4	6 1/2	5/8 x 12 1/2	165	18.30
42295	42310	70	1 3/8	2 1/2	8	5/8 x 9	148	17.10
42296	42311	71	1 3/8	2 1/2	8	5/8 x 14	188	20.50
42297	42312	80	1 3/8	2 3/4	9	5/8 x 10 1/2	172	19.60
42298	42313	81	1 3/8	2 3/4	9	5/8 x 16	217	23.00
42299	42314	90	1 3/8	2 3/4	9	3/4 x 10 1/2	225	25.50
42300	42315	91	1 3/8	2 3/4	9	3/4 x 16	290	30.50

STEEL PINS WITH PARAFFINED WOOD TOPS AND  
PORCELAIN BASES

TRADE NUMBER With Plain Bolt	With Galv. Bolt	Mfrs. No.	DIMENSIONS, INCHES				Size of Bolt, In.	Wt., Lbs. per 100	Price per 100
			WOOD TOP Diam.	WOOD TOP Length	PORC. Diam.	TOP Length			
90395	90409	110	1	2 1/4	2 1/4	2 1/4	1/2 x 5 1/2	85	\$12.10
90396	90410	111	1	2 1/4	2 1/4	2 1/4	1/2 x 9 1/2	110	14.00
90397	90411	120	1	2 1/2	2 5/8	3	1/2 x 6 1/2	120	14.80
90398	90412	121	1	2 1/2	2 5/8	3	1/2 x 10 1/2	145	17.10
90399	90413	122	1	2 1/2	2 5/8	3	1/2 x 11 1/2	150	17.50
90400	90414	140	1 3/8	2 1/4	2 1/4	2 1/4	5/8 x 10 1/2	160	18.70
90401	90415	150	1 3/8	2 1/4	2 5/8	3	5/8 x 10 1/2	190	21.30
90402	90416	160	1 3/8	3	3	3 1/2	5/8 x 12 1/2	225	24.20
90403	90417	170	1 3/8	3	3 1/2	5	5/8 x 9	315	27.80
90404	90418	171	1 3/8	3	3 1/2	5	5/8 x 14	360	31.20
90405	90419	180	1 1/2	3	3 1/2	6	5/8 x 10 1/2	400	33.80
90406	90420	181	1 3/8	3	3 1/2	6	5/8 x 16	425	37.10
90407	90421	190	1 3/8	3	3 1/2	6	3/4 x 10 1/2	440	39.60
90408	90422	191	1 3/8	3	3 1/2	6	3/4 x 16	500	44.60

STEEL PINS WITH PARAFFINED WOOD TOPS AND  
CAST IRON BASES

TRADE NUMBER With Plain Bolt	With Galv. Bolt	Mfrs. No.	DIMENSIONS, INCHES				Size of Bolt, In.	Wt., Lbs. per 100	Price per 100
			WOOD TOP Diam.	WOOD TOP Length	C. I. BASE Diam.	BASE Length			
90423	90425	15	1	2 1/4	2	2 1/4	1/2 x 5 1/2	80	\$12.60
90424	90426	16	1	2 1/4	2	2 1/4	1/2 x 6 1/2	105	14.50

## GALVANIZED RIDGE IRONS

Trade No.	Mfrs. No.	Size of Stock, In.	Height, Inches	Size of Pole, In.	Wt., Lbs. per 100	Price per 100
42330	1	1 1/8 x 2 1/4	7	6	140	\$26.00
42331	2	3/8 x 2 3/4	8	7	300	52.00
90427	3	1 1/4 x 2 3/4	8 1/4	7	450	74.00

Prices do not include pins.



## PEIRCE PINS AND KNOB FIXTURES

HOT GALVANIZED



No. 122

### PEIRCE SCREW PINS AND BRACKETS

Recent additions to the Peirce Line made possible by a clever scheme of fastening a flat head wood screw to any shape of bracket. Screw type brackets are thereby equipped with sharp pointed wood screws. Instead of cutting a blunt pointed lag screw thread on their shank as formerly.

They can be screwed into a cross-arm or the studding of a building in a moment without boring a hole or using tools. Owing to the small diameter of the screw (No. 20x2¼ inch) they will not split the wood, yet, because of the broad base and the fulcrum it forms, they will hold as great side strains as brackets or pins with ½-inch screw shanks.



No. 132

Trade No.	Mfrs. No.	Size Inches	Diam. Inches	Extension from Wall Inches	Height Above Base In.	Wt. Lbs. per 100	Price per 100
120296	122	1	2½	...	4¾	95	\$17.00
120298	132	1	2½	4½	...	165	26.50

### PEIRCE SWINGING KNOB FIXTURES

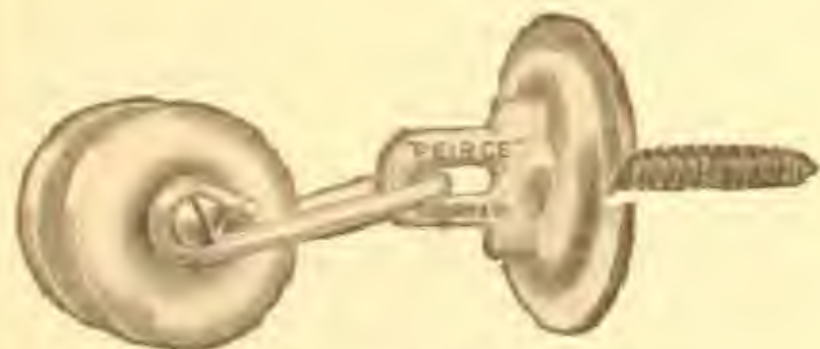
For light electric service wires and telephone twists, these fixtures are cheap and easily installed fastenings. Can be screwed into the building with a pair of pliers and the 2½-inch screw will reach well into the studding.

No. 2925 has the insulator furnished with light Presteel racks, and No. 2926, the same insulator as the other Peirce Single Knob Fixtures.



No. 2925

Trade No.	Mfrs. No.	Wt. Lbs. per 100	Price per 100
148158	2925	70	\$16.00
148159	2926	54	14.00



No. 2926

### PEIRCE MINE BRACKETS

These brackets are attached, in the position shown, to the underside of the cross timbers by means of ⅝-inch or smaller lag screws or hanger screws. Designed to support two wire circuits on standard pin type insulators in mines or timber framed buildings. The two 1-inch spring threads are 6 inches apart, and the bracket is made of 1x½-inch channel steel.



No. 216

Trade No.	Mfrs. No.	Wt. Lbs. per 100	Price per 100
120299	216	88	\$16.00



## PEIRCE CLAMP PINS AND CROSS ARM STRAPS

## Hot Galvanized

Pins are made from one-piece channel steel bent double to form slot for cross-arm strap. They are furnished with separable thimbles and with Peirce Spring Threads. We recommend the latter for insulators up to 33000 volts, as on the smaller sizes of insulators the cost of cementing may thus be avoided. If in doubt as to the length of pin necessary for a high tension insulator, add to the length of insulator bore one half the diameter of the lower skirt. The sum will give the minimum height of pin above cross-arm.



Assembly for Wood

## CLAMP PINS FOR LOW VOLTAGE LINES

Equipped with Peirce 1-inch steel spring threads. Pin No. 4300 is pressed from a single piece of 12-gauge sheet steel, and Nos. 4400-1 are made of  $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{8}$ -inch channel steel.

Trade No.	Mfrs. No.	Size Cross-arm Inches	Height Above Arm, In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
75178	4300	4 x 5 and smaller	$4\frac{3}{4}$	300	75	\$16.00
75179	4400	4 x 5 and smaller	$4\frac{3}{4}$	300	120	19.00
75180	4401	$3\frac{1}{2} \times 4\frac{1}{2}$ and smaller	$4\frac{3}{4}$	300	105	18.00

CLAMP PINS FOR HIGH VOLTAGE INSULATORS  
ON STEEL AND WOOD CROSS-ARMS

With  $1\frac{1}{2}$ -inch Drawn Steel Separable Thimble



No. 4300

No. 4400

Trade No.	Mfrs. No.	Size Channel In.	HEIGHT ABOVE ARM, IN.		Wt., Lbs. per 100	Price per 100
			For Bo-Arrow and 3-in. Angle Arms	For Wood Arms $3\frac{1}{4} \times 4\frac{1}{4}$ and $4 \times 5$ In.		
165155	4806	1 x $1\frac{1}{2}$	6	$3\frac{3}{4}$	172	\$22.00
165156	4807	1 x $1\frac{1}{2}$	7	$4\frac{3}{4}$	187	23.00
165157	4808	1 x $1\frac{1}{2}$	8	$5\frac{3}{4}$	203	24.00
165158	4809	1 x $1\frac{1}{2}$	9	$6\frac{3}{4}$	217	27.00
165159	4810	1 x $1\frac{1}{2}$	10	$7\frac{3}{4}$	230	30.00
165160	4811	1 x $1\frac{1}{2}$	11	$8\frac{3}{4}$	244	32.00
165177	4812	1 x $1\frac{1}{2}$	12	$9\frac{3}{4}$	257	35.00
165178	4813	1 x $1\frac{1}{2}$	13	$10\frac{3}{4}$	270	37.00
165179	4814	$1\frac{1}{4} \times 1\frac{1}{2}$	14	$11\frac{3}{4}$	322	40.00
165180	4815	$1\frac{1}{4} \times 1\frac{1}{2}$	15	$12\frac{3}{4}$	338	43.00
165181	4816	$1\frac{1}{4} \times 1\frac{1}{2}$	16	$13\frac{3}{4}$	352	46.00

With  $1\frac{1}{2}$ -inch Spring Thread

Trade No.	Mfrs. No.	Size Channel In.	Height Above Arm, In.	Wt., Lbs. per 100	Price per 100
165182	4906	1 x $1\frac{1}{2}$	6	185	20.00
165183	4907	1 x $1\frac{1}{2}$	7	200	21.00
165184	4908	1 x $1\frac{1}{2}$	8	216	22.00
165185	4909	1 x $1\frac{1}{2}$	9	230	25.00
165186	4910	1 x $1\frac{1}{2}$	10	243	28.00
165187	4911	1 x $1\frac{1}{2}$	11	257	30.00
165188	4912	1 x $1\frac{1}{2}$	12	270	33.00
165189	4913	1 x $1\frac{1}{2}$	13	284	35.00
165190	4914	$1\frac{1}{4} \times 1\frac{1}{2}$	14	335	38.00
165191	4815	$1\frac{1}{4} \times 1\frac{1}{2}$	15	350	41.00
165192	4916	$1\frac{1}{4} \times 1\frac{1}{2}$	16	365	44.00

Clamping bolts are not included in pin prices.

No. 4910 Pin With Strap For Wood Cross Arm  
No. 4810 Pin With Angle Clamp For Bo-Arrow Arm



No. 1001

## LIGHT CROSS-ARM STRAPS FOR LOW VOLTAGE

Trade No.	Mfrs. No.	Size of Arm Inches	Size of Bolt Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
75055	1001	$3\frac{1}{4} \times 4\frac{1}{4}$	$\frac{1}{2}$	100	91	\$10.50
75056	1002	$3\frac{1}{2} \times 4\frac{1}{2}$	$\frac{1}{2}$	100	102	11.00
75057	1003	$3\frac{3}{4} \times 4\frac{3}{4}$	$\frac{1}{2}$	100	113	11.50
75058	1004	4 x 5	$\frac{1}{2}$	100	126	12.00

## HEAVY CROSS-ARM STRAPS FOR HIGH VOLTAGE

Trade No.	Mfrs. No.	Size of Arm Inches	Size of Bolt Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
165193	2001	$3\frac{1}{4} \times 4\frac{1}{4}$	$\frac{5}{8}$	100	142	12.00
165194	2002	$3\frac{1}{2} \times 4\frac{1}{2}$	$\frac{5}{8}$	100	148	12.75
165195	2003	$3\frac{3}{4} \times 4\frac{3}{4}$	$\frac{5}{8}$	100	154	13.50
165196	2004	4 x 5	$\frac{5}{8}$	100	160	14.25

## NOTCHED ANGLE CLAMPS

Trade No.	Mfrs. No.	Size of Arm Inches	Size of Bolt Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
165197	159	$2\frac{1}{2} \times 2\frac{1}{2}$	$\frac{5}{8}$	100	90	5.75
165198	160	3 x 2	$\frac{5}{8}$	100	90	5.75
151879	161	3 x 3	$\frac{5}{8}$	100	100	6.00
165199	162	$3\frac{1}{2} \times 3\frac{1}{2}$	$\frac{5}{8}$	100	115	6.50

## STANDARD PIPE CLAMPS

Trade No.	Mfrs. No.	Size of Arm Inches	Size of Bolt Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
151880	165	$1\frac{1}{4}$ to 2	$\frac{5}{8}$	100	160	10.00



No. 161



No. 165



## TURNBUCKLES AND BOLTS

### PEIRCE INSULATED FORKS AND TURNBUCKLES

Hot Galvanized

The turnbuckles, the hooks and the eye bolts are of drop forged steel and the insulator forks are made of heavy channel steel. All bolts are of  $\frac{3}{8}$ -inch diameter, except those passing through the insulators which are  $\frac{3}{8}$ -inch diameter, except No. 561 which is  $\frac{5}{8}$  inch.

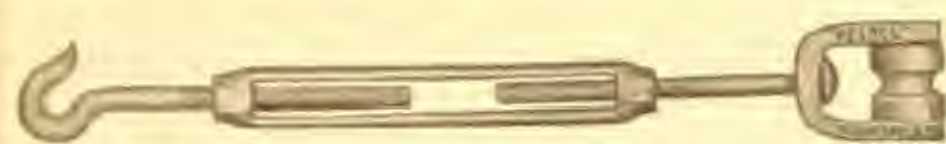


No. 681



No. 661

Trade No.	Mfrs. No.	Description	Std. Pkg	Wt., Lbs. per 100	Price per 100
75517	650	Insulator fork and eye, 6-inch turnbuckle	10	356	\$288.00
75518	651	Insulator fork and eye, 9-inch turnbuckle	10	381	312.00
75519	660	Two insulator forks and 6-inch turnbuckle	10	435	320.00
75520	661	Two insulator forks and 9-inch turnbuckle	10	460	352.00



No. 671



No. 651

75521	670	Insulator fork and hook, 6-inch turnbuckle	10	341	272.00
75522	671	Insulator fork and hook, 9-inch turnbuckle	10	366	296.00
75523	680	Insulator fork and swivel eye, 6-inch turnbuckle	10	304	300.00
75524	681	Insulator fork and swivel eye, 9-inch turnbuckle	10	329	324.00



No. 692



No. 640



No. 561



Insulator Fork

75525	690	Insulator fork and 8-inch carriage bolt	10	170	60.00
75526	691	Insulator fork and 10-inch carriage bolt	10	187	64.00
75527	692	Insulator fork and 12-inch carriage bolt	10	204	68.00
75528	693	Insulator fork and 14-inch carriage bolt	10	221	72.00
75516	640	Insulator fork and 4-inch lag screw	10	155	44.00
75515	561	Insulator fork for heavy secondaries	100	221	48.00

### FORK BOLTS



Equipped with Peirce Insulators No. 357 with  $\frac{3}{8}$ -inch insulator bolts. The length of these fork bolts is measured from the center of the insulator bolts, and each fork has 6 inches of thread.

Trade No.	Mfrs. No.	Diam. Inches	Length, In. from Center of Bolt Hole	Wt., Lbs. per 100	Price per 100	Trade No.	Mfrs. No.	Diam. Inches	Length, In. from Center of Bolt Hole	Wt., Lbs. per 100	Price per 100
99632	8810	$\frac{1}{2}$	10	125	\$26.00	99635	8813	$\frac{5}{8}$	12	195	\$33.00
99633	8811	$\frac{1}{2}$	12	135	27.00	99636	8814	$\frac{5}{8}$	14	210	34.50
99634	8812	$\frac{1}{2}$	14	145	28.00	99637	8815	$\frac{5}{8}$	16	225	36.00

### HUBBARD STANDARD TURNBUCKLES

Drop-forged

Style	Trade No.	Style	Trade No.	Style	Trade No.	Diam. of Threaded End, In.	Expan. Inches	Wt., Lbs. per 100	Price per 100
A	99638	B	99649	C	99660	$\frac{3}{8}$	4 $\frac{1}{2}$	95	\$130.00
	99639		99650		99661	$\frac{3}{8}$	6	105	134.00
	99640		99651		99662	$\frac{1}{2}$	6	175	163.00
	99641		99652		99663	$\frac{1}{2}$	9	190	187.00
	99642		99653		99664	$\frac{1}{2}$	12	230	211.00
	99643		99654		99665	$\frac{5}{8}$	6	270	192.50
	99644		99655		99666	$\frac{5}{8}$	9	335	223.00
	99645		99656		99667	$\frac{5}{8}$	12	400	253.50
	99646		99657		99668	$\frac{3}{4}$	6	400	257.50
	99647		99658		99669	$\frac{3}{4}$	9	505	290.00
	99648		99659		99670	$\frac{3}{4}$	12	610	322.00



Style A, Two Eyes



Style B, Hook and Eye



Style C, Eye and Clevis



## HUBBARD LINE MATERIAL



Forged Steel Pin on Steel Arm



Single Bo-Arrows



Double Bo-Arrows

## TRANSMISSION LINE CONSTRUCTION

In no other branch of line construction have there been so many radically different ideas as in high tension transmission work. A table published in the Hubbard Reference Book is the most extensive collection of data on this subject in existence, and gives details of 131 lines of various voltages built during the last four years. A study of these data leads to the following interesting conclusions:

1 — There has been in the past no standard type of construction for any voltage.

2 — The general trend is toward the substitution of steel for wood in arms, pins and poles.

3 — The overhead ground wire is used on about 80 per cent of the newer lines, as its effectiveness as a protection against static discharges is generally acknowledged.

4 — Most lines of 66000 volts and lower are built for one circuit and another line is constructed when additional line capacity is required; this practice being in accordance with the policy of syndicate control and supply of large territories from net works of transmission lines.

5 — There is a marked tendency to increase wire spacings, and many companies are now using much larger spacings than they formerly considered adequate for the lower voltages. This is due to various causes such as the use of aluminum and copper clad wires and provision for future increase in voltage.

6 — There is a general improvement in the quality of recent construction, both new lines and reconstruction work, due to unsatisfactory experience with wooden arms and pins.

7 — On account of the increased cost of labor, a great deal of attention is now being paid to the selection of a type of construction having a minimum installation cost.

8 — The tendency toward long span pole lines is mostly confined to those parts of the west in which the loads are widely scattered and of a temporary nature, and where the first cost of the lines must be kept down, experience having shown that this end is best accomplished by using a good grade of material and longer spans than by using an inferior quality of arms, pins and poles with the usual pole spacing.

After considerable experimenting with various designs, the Bo-Arrow Cross Arm has been developed to meet the conditions outlined above. This arm met with instantaneous favor and there are now thousands in use.

## PEIRCE FORGED STEEL PINS

## Hot Galvanized

These pins have a drawn steel separable thimble, giving a greater strength in the pin than can be secured with any other type of construction and a strength which is uniform in all lengths of the pin. Made in three series of strengths; 1500, 3000, and 4500-pounds, each developing its rated strength on a dead end pull exerted at the insulator groove, with a deflection of less than 10 degrees. Each of these series is made in heights ranging from 4 to 16 inches above the arm. The taper of the shank of the pin is so designed that a 1500-pound series, 16-inch pin, will, in spite of its greater lever arm, withstand a strain of 1500 pounds just as a 4-inch pin in the same series will.

Each of the series is made in two distinct types: The long bolt pin for wooden arms and the short bolt pin for steel arms.



# PEIRCE FORGED STEEL PINS

Hot Galvanized

WITH DRAWN STEEL SEPARABLE THIMBLES

The new Peirce Forged Steel Pin for high voltage insulators is a development of the original Peirce forged steel pin construction, with an important change. A drawn steel separable thimble has replaced the malleable iron thimble. This change has made possible a very much greater strength in the pin than can be secured with a pin of any other type of construction, and a strength which is uniform in all lengths of the pin.

Each of the series is made in two distinct types: The long bolt pin for wood arms and the short bolt pin for steel arms. The pin is a solid forging from a single block of steel, and has neither welds nor joints.

## FORGED STEEL PINS FOR WOOD ARMS

1500-pound Series for Insulators with 1-inch Bore

Trade No.	Mfrs. No.	DIMENSIONS, INCHES							Wt., Lbs. per 100	Price per 100
		A	B	C	D	E	F	G		
120187	5102	3½	5½	¾	2¼	.94	2½	2	217	\$26.50
120188	5104	4	5½	¾	2¼	.98	2½	2	231	28.00
120189	5106	4½	5½	¾	2¼	1.02	2½	2	246	29.56
120190	5108	5	5½	¾	2¼	1.05	2½	2	261	31.06
120191	5110	5½	5½	¾	2¼	1.08	2½	2	278	32.75
120192	5112	6	5½	¾	2¼	1.12	2½	2	297	34.75
120193	5114	7	5½	¾	3	1.15	2½	2	388	44.25
120194	5116	8	5½	¾	3	1.22	2½	2	435	49.25

1500-pound Series for Insulators with 1½-inch Bore

120195	5118	4	6½	¾	2½	1.16	1⅞	2½	285	32.90
120196	5120	5	6½	¾	2½	1.20	1⅞	2½	318	36.15
120197	5122	5½	6½	¾	2½	1.22	1⅞	2½	334	37.05
120198	5124	6	6½	¾	2½	1.23	1⅞	2½	351	39.05
120199	5126	7	6½	¾	3	1.26	1⅞	2½	417	48.00
120200	5128	8	6½	¾	3	1.30	1⅞	2½	445	51.40
120201	5130	9	6½	¾	3	1.33	1⅞	2½	515	56.05
120202	5132	10	6½	¾	3	1.36	1⅞	2½	568	60.90
120203	5134	11	6½	¾	3½	1.38	1⅞	2½	652	67.90
120204	5136	12	6½	¾	3½	1.41	1⅞	2½	699	71.65
120205	5138	13	6½	¾	3½	1.44	1⅞	2½	746	74.65
120206	5140	14	6½	¾	3¾	1.48	1⅞	2½	824	81.00
120207	5142	15	6½	¾	3¾	1.51	1⅞	2½	877	85.25
120208	5144	16	6½	¾	3¾	1.58	1⅞	2½	932	89.80

3000-pound Series for Insulators with 1½-inch Bore

120209	5146	4	8½	1	2½	1.26	1⅞	2½	425	42.40
120210	5148	5	8½	1	2½	1.30	1⅞	2½	462	47.00
120211	5150	5½	8½	1	2½	1.35	1⅞	2½	503	51.25
120212	5152	6	8½	1	2½	1.37	1⅞	2½	525	53.50
120213	5154	7	8½	1	3	1.41	1⅞	2½	577	58.75
120214	5156	8	8½	1	3	1.47	1⅞	2½	626	63.75
120215	5158	9	8½	1	3	1.53	1⅞	2½	678	69.00
120216	5160	10	8½	1	3	1.57	1⅞	2½	734	75.50
120217	5162	11	8½	1	3½	1.63	1⅞	2½	864	85.00
120218	5164	12	8½	1	3½	1.68	1⅞	2½	927	90.00
120219	5166	13	8½	1	3½	1.74	1⅞	2½	999	95.75
120220	5168	14	8½	1	3¾	1.80	1⅞	2½	1102	104.00
120221	5170	15	8½	1	3¾	1.86	1⅞	2½	1184	110.60
120222	5172	16	8½	1	3¾	1.92	1⅞	2½	1271	119.75



Assembly for  
Flat Top  
Wood Arms



Assembly for  
Round Top  
Wood Arms

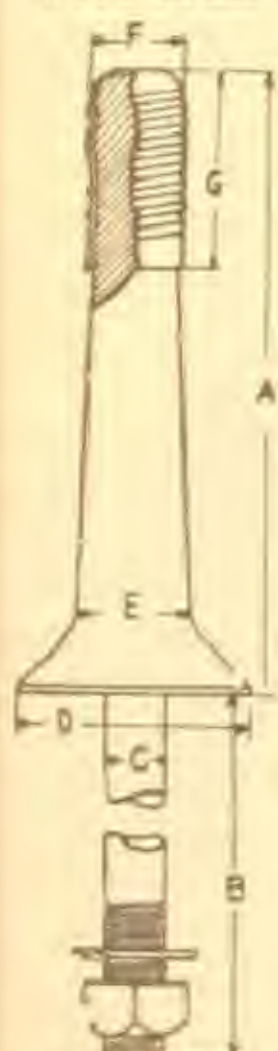


Diagram of  
Dimensions



## PEIRCE PINS

Hot Galvanized

WITH DRAWN STEEL SEPARABLE THIMBLES

## FORGED STEEL PINS FOR STEEL ARMS

1500-pound Series for Insulators with 1-inch Bore

Trade No.	Mfrs. No.	DIMENSIONS, INCHES							Wt., Lbs per 100	Price per 100
		A	B	C	D	E	F	G		
120233	5101	3½	1¾	¾	2¼	.94	2½	2	158	\$22.50
120234	5103	4	1¾	¾	2¼	.98	2½	2	173	24.00
120235	5105	4½	1¾	¾	2¼	1.02	2½	2	188	25.50
120236	5107	5	1¾	¾	2¼	1.05	2½	2	202	27.00
120237	5109	5½	1¾	¾	2¼	1.08	2½	2	220	28.75
120238	5111	6	1¾	¾	2¼	1.12	2½	2	239	30.75
120239	5113	7	1¾	¾	3	1.15	2½	2	330	40.25
120240	5115	8	1¾	¾	3	1.22	2½	2	376	45.25

Assembly for  
Steel Arms

1500-pound Series for Insulators with 1½-inch Bore

120241	5117	4	1¾	¾	2½	1.17	1¾	2½	215	28.25
120242	5119	5	1¾	¾	2½	1.20	1¾	2½	247	31.50
120243	5121	5½	1¾	¾	2½	1.22	1¾	2½	263	32.40
120244	5123	6	1¾	¾	2½	1.23	1¾	2½	280	34.40
120245	5125	7	1¾	¾	3	1.26	1¾	2½	346	43.35
120246	5127	8	1¾	¾	3	1.30	1¾	2½	394	46.75
120247	5129	9	1¾	¾	3	1.33	1¾	2½	444	51.40
120248	5131	10	1¾	¾	3	1.36	1¾	2½	496	56.25
120249	5133	11	1¾	¾	3½	1.40	1¾	2½	582	63.25
120250	5135	12	1¾	¾	3½	1.43	1¾	2½	628	67.00
120251	5137	13	1¾	¾	3½	1.46	1¾	2½	675	70.00
120252	5139	14	1¾	¾	3¾	1.50	1¾	2½	753	76.35
120253	5141	15	1¾	¾	3¾	1.53	1¾	2½	805	80.60
120254	5143	16	1¾	¾	3¾	1.56	1¾	2½	861	85.15

3000-pound Series for Insulators with 1½-inch Bore

120255	5145	4	2	1	2½	1.25	1¾	2½	263	32.40
120256	5147	5	2	1	2½	1.30	1¾	2½	300	37.00
120257	5149	5½	2	1	2½	1.33	1¾	2½	340	41.25
120258	5151	6	2	1	2½	1.35	1¾	2½	363	43.50
120259	5153	7	2	1	3	1.41	1¾	2½	415	48.75
120260	5155	8	2	1	3	1.47	1¾	2½	464	53.75
120261	5157	9	2	1	3	1.53	1¾	2½	516	59.00
120262	5159	10	2	1	3	1.59	1¾	2½	572	65.50
120263	5161	11	2	1	3½	1.65	1¾	2½	702	75.00
120264	5163	12	2	1	3½	1.70	1¾	2½	765	80.00
120265	5165	13	2	1	3½	1.76	1¾	2½	837	85.75
120266	5167	14	2	1	3¾	1.82	1¾	2½	940	94.00
120267	5169	15	2	1	3¾	1.88	1¾	2½	1022	100.60
120268	5171	16	2	1	3¾	1.94	1¾	2½	1110	109.75

Diagram of  
Dimensions



## PEIRCE PINS AND BRACKETS

Hot Galvanized

### LEAD THREAD SEPARABLE THIMBLES

Any Peirce Forged Steel Pin, clamp pin or pole top pin taking a Peirce Drawn Separable Thimble for cementing into the insulation pin hole, may be furnished with a lead thread separable thimble thus allowing the pin to be screwed directly into the insulator without requiring the thimble to be cemented.

Leaded thimble No. 5020 will fit only pins for 1-inch pin hole and No. 5025 will fit only pins for 1 3/8-inch pin hole. Prices of pins include drawn steel thimbles, which will be furnished unless otherwise specified. If leaded thimbles are desired, they must be specified and the price given in the second list should be added to the pin list.

Trade No.	Mfrs. No.	Insulator Bore Inches	Wt., Lbs. per 100	Price, per 100— Ordered Separately	Ordered with Pins
148155	5020	1	25	\$14.00	\$ 9.00
148156	5025	1 3/8	40	15.00	10.00

### PEIRCE THIMBLE ADAPTERS

By means of these adapters, it is possible to use insulators in which Peirce Drawn Thimbles are cemented for repair work on old lines equipped with cast iron separable thimble pins, as well as on new construction with Peirce Pole Top, Clamp, and Forged Steel Pins. The outside thread of the adapter fits inside the steel thimble and the adapter is tapped for the standard 3/4-inch center bolt of the old cast iron pin.

### PRESTEEL CROSS-ARM SADDLES

These cross-arm saddles are used with Peirce Forged Steel Pins on round top cross-arms. Prevent the splitting of the arm when subjected to heavy strains. They are pressed from sheet steel. The Peirce Forged Steel Pin with this saddle will hold a greater strain than a curved base malleable iron pin, because there are no sharp edges to cut into the wood.

Trade No.	Mfrs. No.	Width of Cross-arm Inches	Size of Pin Hole Inches	Wt., Lbs. per 100	Price per 100
120281	5001	3 1/4	3/4	62	\$5.50
120282	5002	3 1/2	3/4	68	5.75
120283	5003	3 3/4	3/4	74	6.00
120284	5004	4	3/4	80	6.30
120285	5005	5	3/4	100	7.70
120286	5011	3 1/4	1	62	5.50
120287	5012	3 1/2	1	68	5.75
120288	5013	3 3/4	1	74	6.00
120289	5014	4	1	80	6.30
120290	5015	5	1	100	7.70

### PRESTEEL CENTERING WASHERS

These washers are used on the lower end of the Peirce Forged Steel Pin to center the pin when the pin is used on an existing cross-arm with holes bored for wood pins.

Trade No.	Mfrs. No.	To Fit in Hole Diam. Inches	Size of Pin Hole Inches	Wt., Lbs. per 100	Price per 100
120291	5030	1 1/4	3/4	12	\$1.60
120292	5031	1 1/4	1	12	1.60
120293	5032	1 1/2	3/4	13	1.70
120294	5033	1 1/2	1	13	1.70

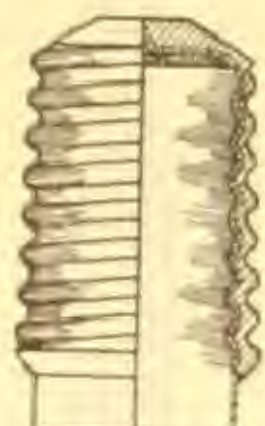
### PRESTEEL POLE TOP BRACKETS

The Presteel Bracket is pressed out of a single plate 1/4 inch thick, with no welds or seams. This construction, besides making it strong enough for use with Peirce Steel Pins, guarantees that it is free from flaws.

Trade No.	Mfrs. No.	Pin Hole Inches	Wt., Lbs. per 100	Price per 100
148153	3035	3/8	550	\$84.00
148154	3036	1 1/2	550	84.00



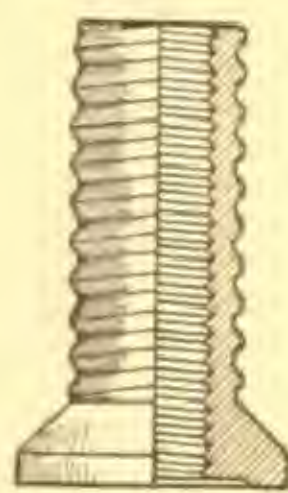
No. 5025



Section of  
Lead Thread  
Thimble



Thimble  
Adapter



Section of  
Thimble  
Adapter



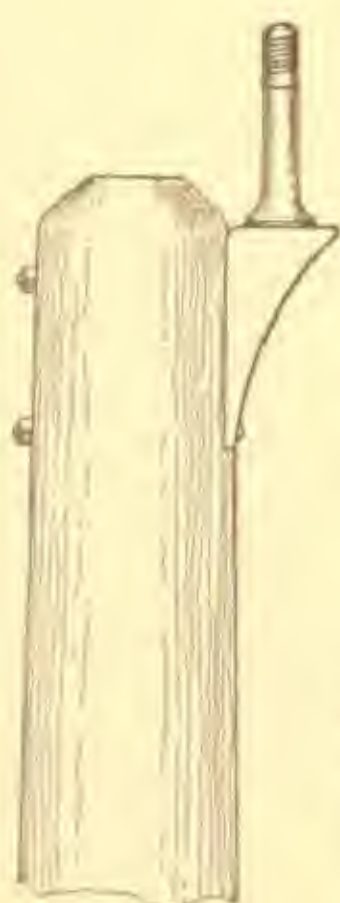
No. 5004



No. 5032



No. 3035



No. 3036  
Mounted on Pole



## PEIRCE POLE TOP PINS

Hot Galvanized



No. 3052



No. 3062



No. 3030



No. 3048



No. 3000



No. 3012



No. 3022



No. 3013



No. 9407



The pole top pins illustrated represent current practice in the construction of lines requiring the supporting of a single wire above the pole top. Pins Nos. 3000 to 3012, inclusive, have  $\frac{7}{16}$ -inch bolt holes; all other pins  $\frac{1}{2}$ -inch holes.

## PIPE PINS

Trade No.	Mfrs. No.	Size Material	DIMENSIONS, INCHES		Style of Top	Wt. Lbs. per 100	Price per 100
			Length	Spacing between Holes			
75355	3050	1 1/4	18	8	1 3/8 in. Spring	336	\$60.00
75356	3052	1 1/4	24	8	1 3/8 in. Spring	448	76.00
75357	3054	1 1/4	36	10	1 3/8 in. Spring	672	107.00
75359	3060	1 1/4	18	8	1 7/8 in. Thimble	336	65.00
75360	3062	1 1/4	24	8	1 7/8 in. Thimble	448	81.00
75361	3064	1 1/4	36	10	1 7/8 in. Thimble	672	112.00

## ANGLE STEEL PINS

75347	3030	2x2x3/8	18	8	1 in. Spring	366	55.00
75348	3031	2x2x3/8	24	8	1 in. Spring	488	73.00
75349	3033	2x2x3/8	36	10	1 in. Spring	732	87.00

## PRESTEEL PINS

75351	3040	No. 10 Ga.	18	8	1 in. Spring	227	45.00
75352	3041	No. 10 Ga.	18	8	1 3/8 in. Spring	230	45.00
75367	3042	No. 10 Ga.	18	8	2 1/2 in. Thimble	227	50.00
75368	3043	No. 10 Ga.	18	8	1 3/2 in. Thimble	230	50.00
75353	3045	No. 10 Ga.	24	8	1 in. Spring	303	61.00
75354	3046	No. 10 Ga.	24	8	1 3/8 in. Spring	305	61.00
75369	3047	No. 10 Ga.	24	8	2 1/2 in. Thimble	303	66.00
75370	3048	No. 10 Ga.	24	8	1 3/2 in. Thimble	305	66.00

## CHANNEL PINS

75341	3000	1 x 1 1/2	18	4	1 in. Spring	140	32.00
75342	3010	1 x 1 1/2	12	4	1 in. Spring	74	19.00
75343	3012	1 x 1 1/2	18	4	1 in. Spring	140	32.00
75371	3013	1 1/2 x 3/4	15	4	1 in. Spring	163	24.00
75344	3020	1 3/4 x 5/8	18	8	1 3/8 in. Spring	369	66.00
75345	3022	1 3/4 x 5/8	25	8	1 3/8 in. Spring	480	82.00
75346	3023	1 3/4 x 5/8	36	10	1 3/8 in. Spring	725	116.00

## HUBBARD RIDGE IRONS

Ridge irons are fastened to the pole by four  $\frac{1}{2}$ -inch lag screws, the holes for which are staggered to prevent splitting the pole top. Pins are not included in ridge iron prices.

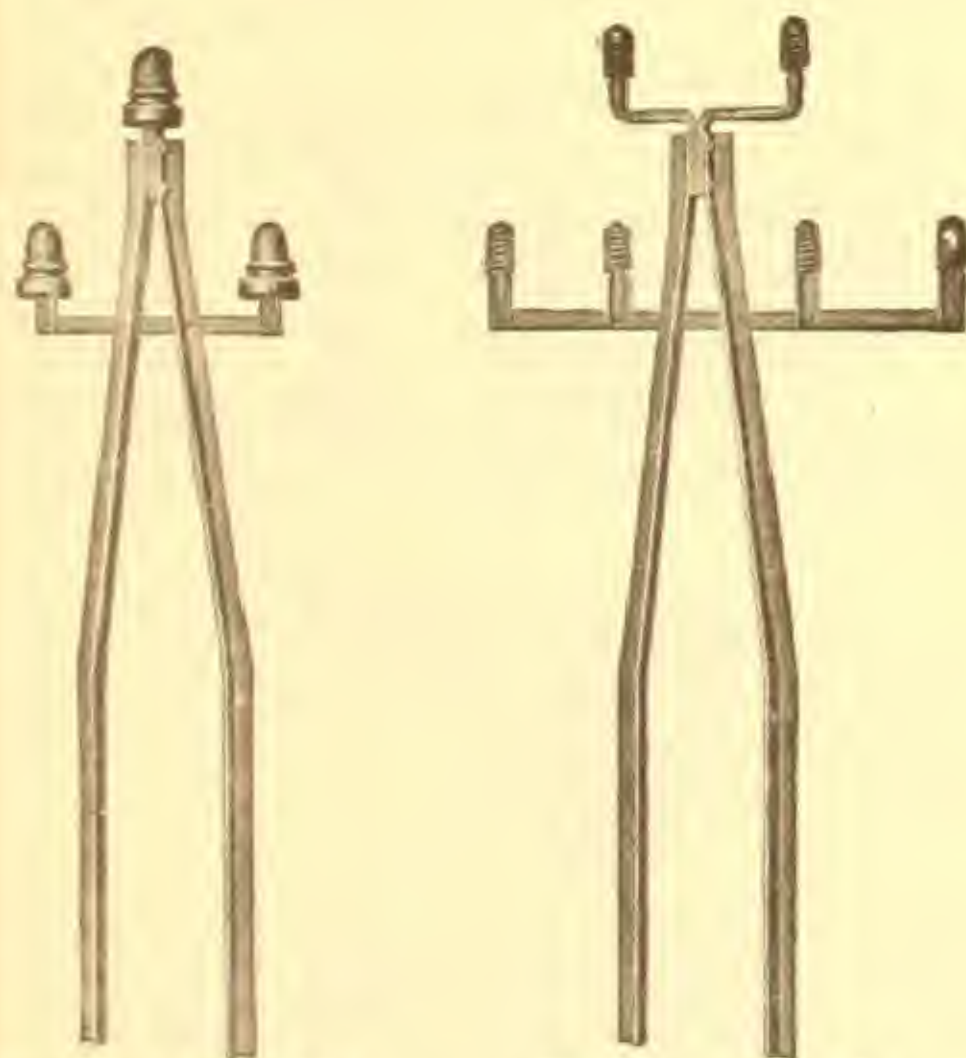
Trade No.	Mfrs. No.	Size of Steel In.	DIMENS., INCHES			Wt., Lbs. per 100	Price per 100
			Height	Diam. Pole	Diam. Pin Hole		
99910	9407	2 1/4 x 1 1/8	7	6	9/16	135	\$26.25
99911	9408	2 3/4 x 3/4	8	7	5/8	285	32.50



# PEIRCE BRACKETS

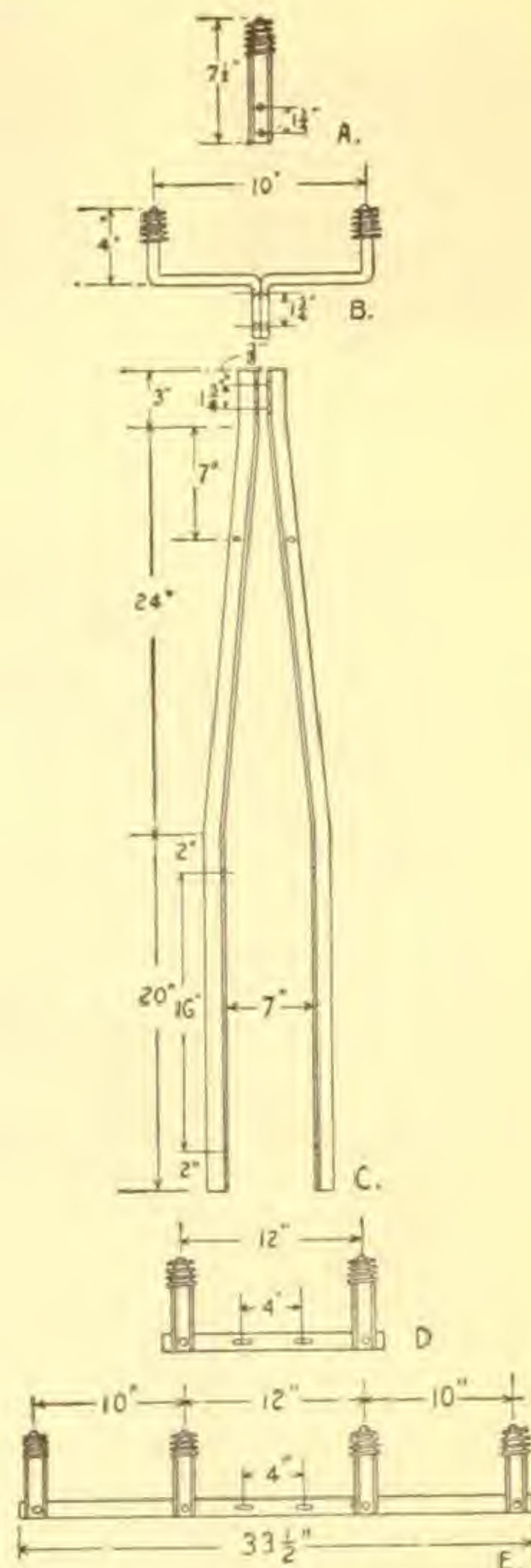
Hot Galvanized

## PEIRCE FIRE ALARM FIXTURES



Three-wire Assembly

Six-wire Assembly



Dimensions

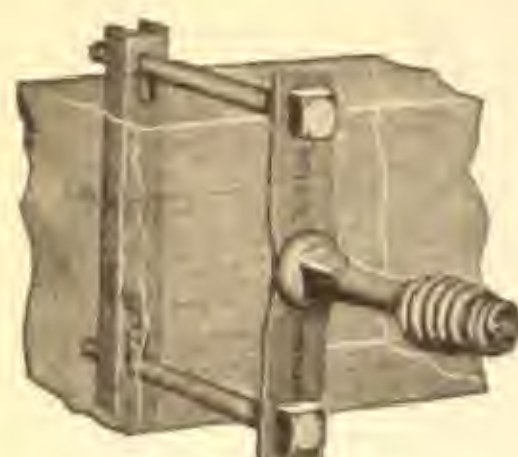
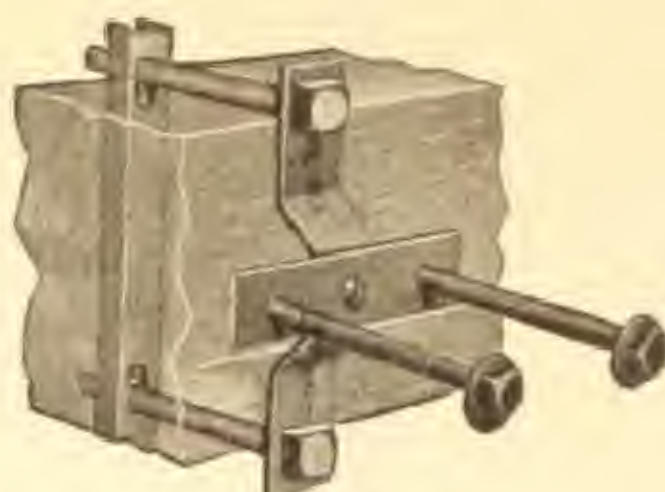
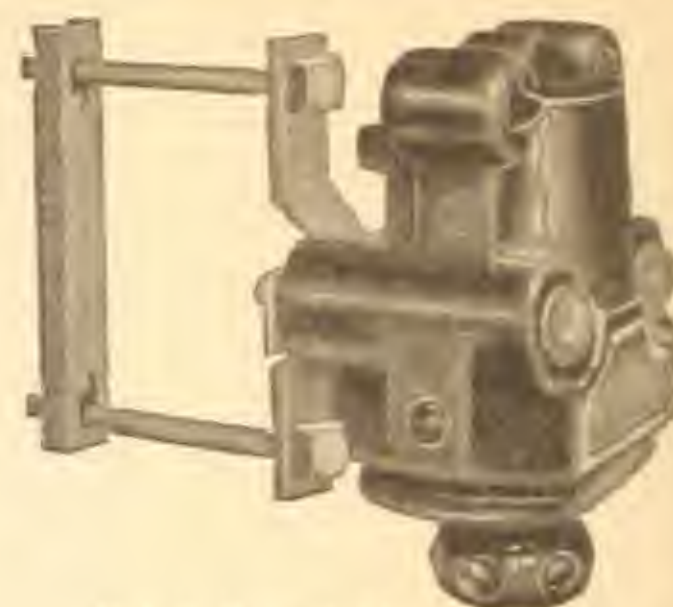
These are combination fixtures for carrying signal wires on electric light, telephone or other foreign poles. Any number of wires, from one to six, can be correctly spaced on the various brackets which are bolted to the angle legs. These legs are of 1 3/4 x 1 3/4 x 1/8-inch angle steel and the insulator brackets of 1 x 1/2 x 1/8-inch channel steel. The details of all parts are given in the above drawing. Wires larger than No. 8 weatherproof should not be carried on Fire Alarm fixtures. Prices include all bolts for fastening parts together, but not the 1/2-inch through bolts, or which 3/8-inch holes are provided in the legs.

Grade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price per 100
5392	2590	One-point bracket.....	50	\$11.00
5393	2591	Two-point bracket.....	175	39.00
5394	2592	Pair angle legs.....	1120	135.00
5395	2593	Two-point arm.....	150	43.50
5396	2594	Four-point arm.....	350	83.00



## PEIRCE SIDE CLAMP PINS AND FUSE BLOCK CLAMPS

HOT GALVANIZED

No. 4452  
Side Clamp PinNo. 5452  
Fuse Block ClampP & S Cutout Mounted on  
a No. 5452 Clamp

Transformer Installation

The illustration shows a transformer job that is practically trouble-proof. The installation consists of Scott-connected transformers, 2 to 3-phase, on pole carrying 3-wire, 110-220 volt lighting mains. The secondary rack is a special 6-point, and fuse block clamps and clamp pins are used on the primary leads.

The long primary leads from line wires to fuse blocks cannot swing together in the wind or break off at the fuse block set screws because they are anchored securely at the line and transformer arms to insulators on the new Peirce Side Clamp Pins.

The fuse blocks are equally secure for they are clamped on arms by Fuse Block Clamps instead of being fastened with wood screws in the old manner.

The best trouble eliminator, however, is the fact that these pins bind the fibres of the wood together and thus keep the arms from splitting and later, rotting. This is especially important for the transformer arm.

These pins and clamps are made entirely of open hearth steel and are hot dip galvanized. They are furnished complete with standard Peirce Cross Arm Straps which are included in the prices.

## SIDE CLAMP PINS

Trade No.	Mfrs. No.	Size Cross Arm Inches	Wt., Lbs. per 100	Price per 100
168973	4451	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	174	\$31.50
168974	4452	3 $\frac{1}{2}$ x 4 $\frac{1}{2}$	185	33.50
168975	4453	3 $\frac{3}{4}$ x 4 $\frac{3}{4}$	197	35.50
168976	4454	4 x 5	210	37.50

## FUSE BLOCK CLAMPS

Trade No.	Mfrs. No.	Size Cross Arm Inches	Wt., Lbs. per 100	Price per 100
168977	5451	3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	174	\$31.50
168978	5452	3 $\frac{1}{2}$ x 4 $\frac{1}{2}$	185	33.50
168979	5453	3 $\frac{3}{4}$ x 4 $\frac{3}{4}$	197	35.50
168980	5454	4 x 5	210	37.50



## HUBBARD SPECIALTIES

### PEIRCE DOUBLE CLEVISES FOR CROSS ARMS

Hot Galvanized

No. 1860



The double clevis consists of a clevis plate and a cross arm clamp or strap. The standard plate will take any of the clamps for wood or steel arms and has  $\frac{3}{8}$ -inch holes for insulator clevis pins, although it can be made with slots for insulator hooks if desired. Angle clamps are  $\frac{1}{2}$ -inch steel, and are for unnotched angles. Cross arm straps are drop forged of  $\frac{1}{2}$ -inch round steel, with a  $1\frac{1}{8}$ -inch flat portion for bearing on arm.

#### Standard Clevis Plate

Trade No.	Mfrs. No.	Size, Arm Inches	Wt., Lbs. per 100	Price per 100
196578	1860	All Arms	120	\$14.00

#### Angle Clamp Only

Trade No.	Mfrs. No.	Size, Arm Inches	Wt., Lbs. per 100	Price per 100
196579	1861	3 x 3	70	5.50
196580	1862	$3\frac{1}{2} \times 3\frac{1}{2}$	76	6.50

#### Wood Cross Arm Strap Only

Trade No.	Mfrs. No.	Size, Arm Inches	Wt., Lbs. per 100	Price per 100
196581	1871	$3\frac{1}{4} \times 4\frac{1}{4}$	97	11.00
196582	1872	$3\frac{1}{2} \times 4\frac{1}{2}$	108	12.00
196583	1873	$3\frac{3}{4} \times 3\frac{3}{4}$	119	13.50
196584	1874	4 x 5	132	15.00

No. 1872



### PEIRCE CROSS ARM CLEVISES

Hot Galvanized

The clevises are made of  $\frac{1}{2}$ -inch round steel, with plates 1-inch wide on each side of the cross arm. For dead ending wires on wood cross arms.

Trade No.	Mfrs. No.	Size, Arm Inches	Wt., Lbs. per 100	Price per 100
196585	549	$3\frac{1}{4} \times 4\frac{1}{4}$	134	\$20.00
196586	550	$3\frac{1}{2} \times 4\frac{1}{2}$	138	20.50
196587	551	$3\frac{3}{4} \times 4\frac{3}{4}$	144	21.00
196588	552	4 x 5	150	21.50

### KLAUBER UNIVERSAL DEAD ENDING CLEVISES

Hot Galvanized

This clevis is the only one made that will anchor a metal cap strain insulator with any one of the three types of connections—eye, clevis and hook—on the end of a bolt through the side of a cross arm or building. Where a variety of insulators are used, the universal clevis is a necessity.

It is forged from flat steel,  $\frac{1}{4} \times 1\frac{1}{4}$  inches and fits both  $\frac{1}{2}$  and  $\frac{3}{8}$ -inch bolts.

Trade No.	Mfrs. No.	Wt., Lbs. per 100	Price per 100
196589	555	110	\$15.00

### SUSPENSION INSULATOR AND CLAMP CLEVISES

Hot Galvanized

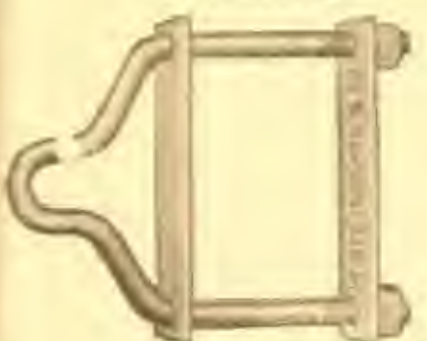
Clevis No. 6793 is drop-forged from  $\frac{1}{2}$ -inch round steel, with a  $\frac{5}{8}$ -inch pin and has an opening  $\frac{3}{8}$ -inch and 2 inches deep, measured from the center of the pin.

Trade No.	Mfrs. No.	Wt., Lbs. per 100	Price per 100
196590	6793	60	\$10.80

No. 6793 Clevis



EYE CONNECTION

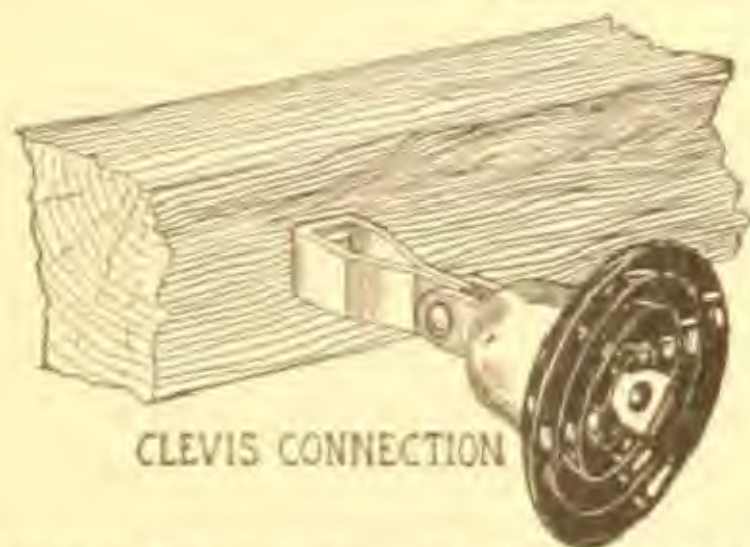


No. 550

No. 555 Klauber Clevis



CLEVIS CONNECTION



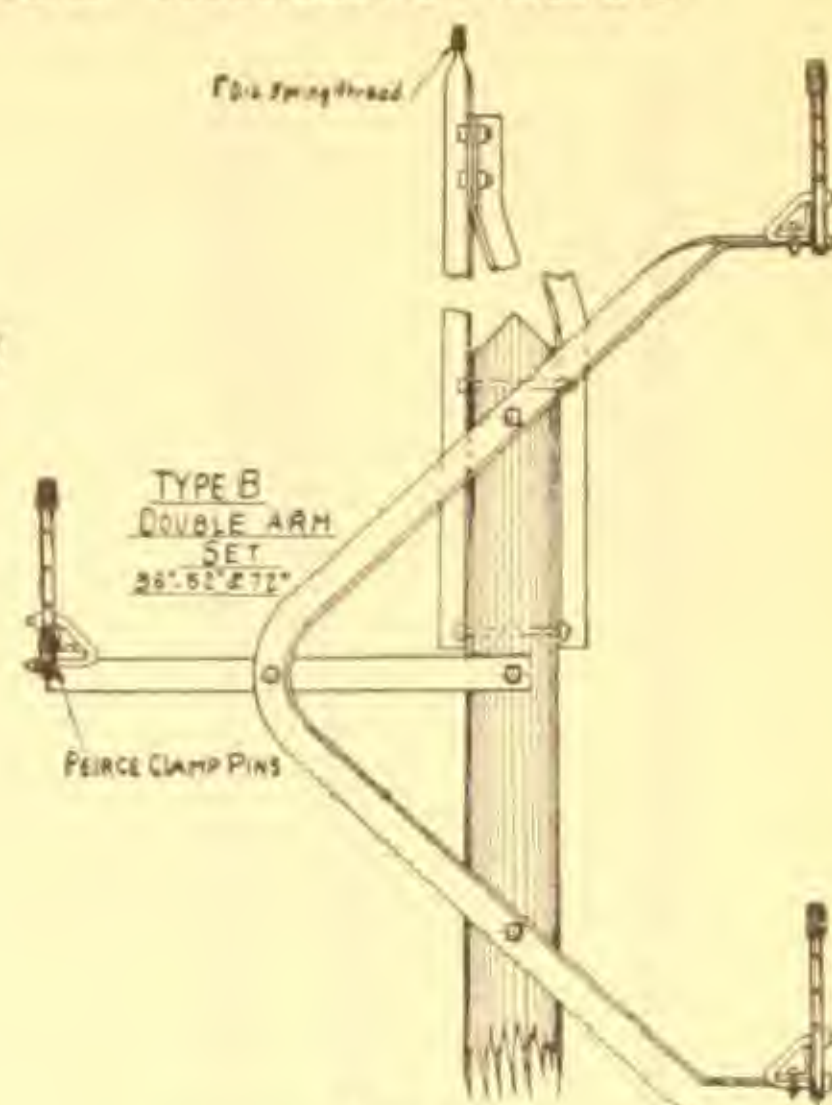
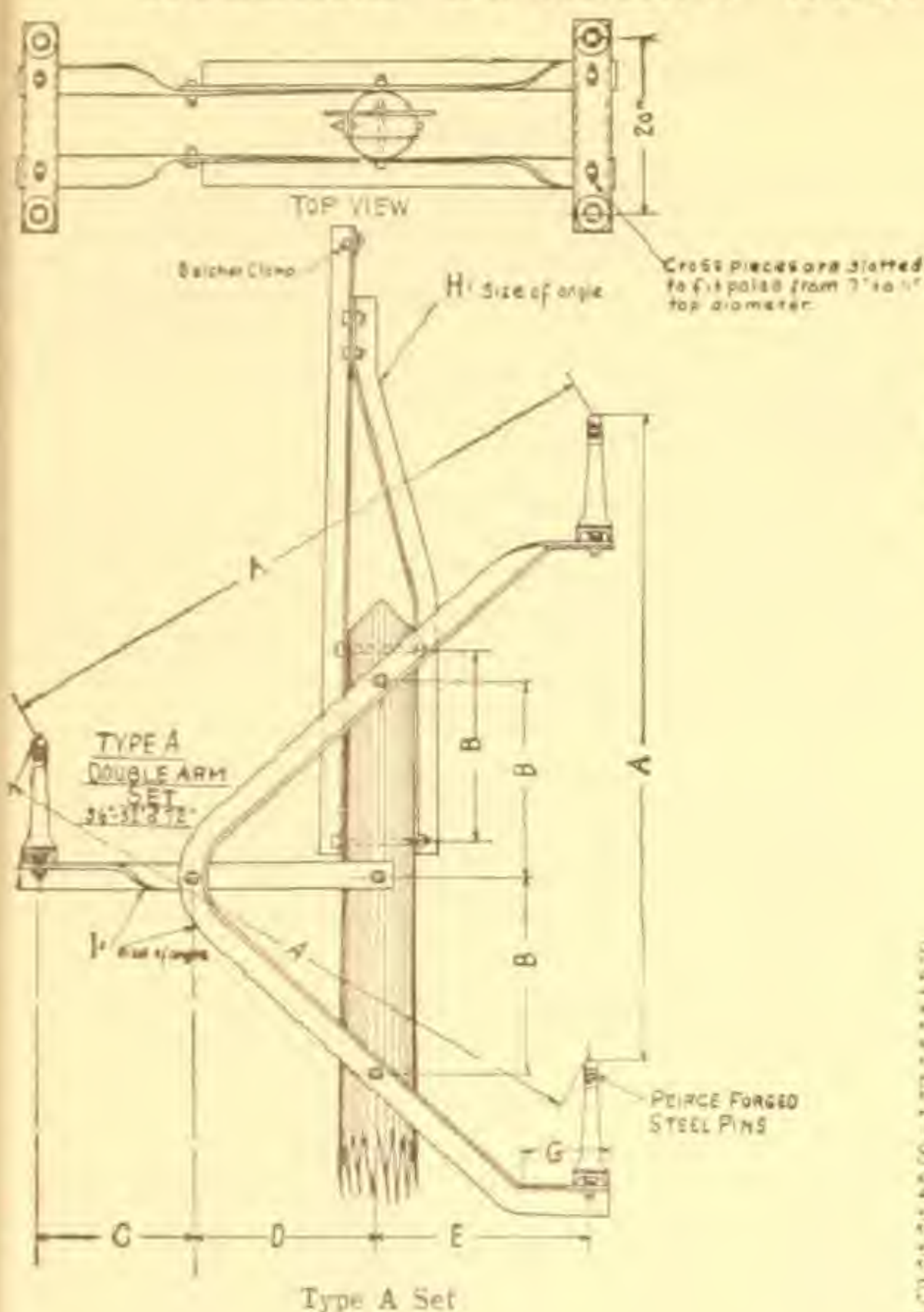
Methods of Using Universal Clevises with Different Kinds of Insulator Connections







# HUBBARD BO-ARROW DOUBLE ARMING SETS



Type B Set  
DIMENSIONS, INCHES

Size	A	B	C	D	E
24	24	7 1/2	4 1/2	8	8 1/4
30	30	9 1/2	7	8	11
36	36	12 5/8	6	12	13 1/2
52	52	15 1/2	10	15	20
72	72	21 1/8	18	20 1/2	24
Size	F	G	H	I	J
24	32	4	2 x 2 x 3/16	2 1/2 x 2 1/2 x 1/4	2 1/2 x 2 1/2 x 1/4
30	40	5	2 x 2 x 3/16	2 1/2 x 2 1/2 x 1/4	2 1/2 x 2 1/2 x 1/4
36	50	8	2 x 2 x 1/4	3 x 3 x 1/4	3 x 3 x 1/4
52	66	9	2 1/2 x 2 1/2 x 1/4	3 x 3 x 1/4	3 x 3 x 1/4
72	75	10 1/2	2 1/2 x 2 1/2 x 1/4	3 x 3 x 1/4	3 x 3 x 1/4

## BO-ARROW DOUBLE ARMING SETS

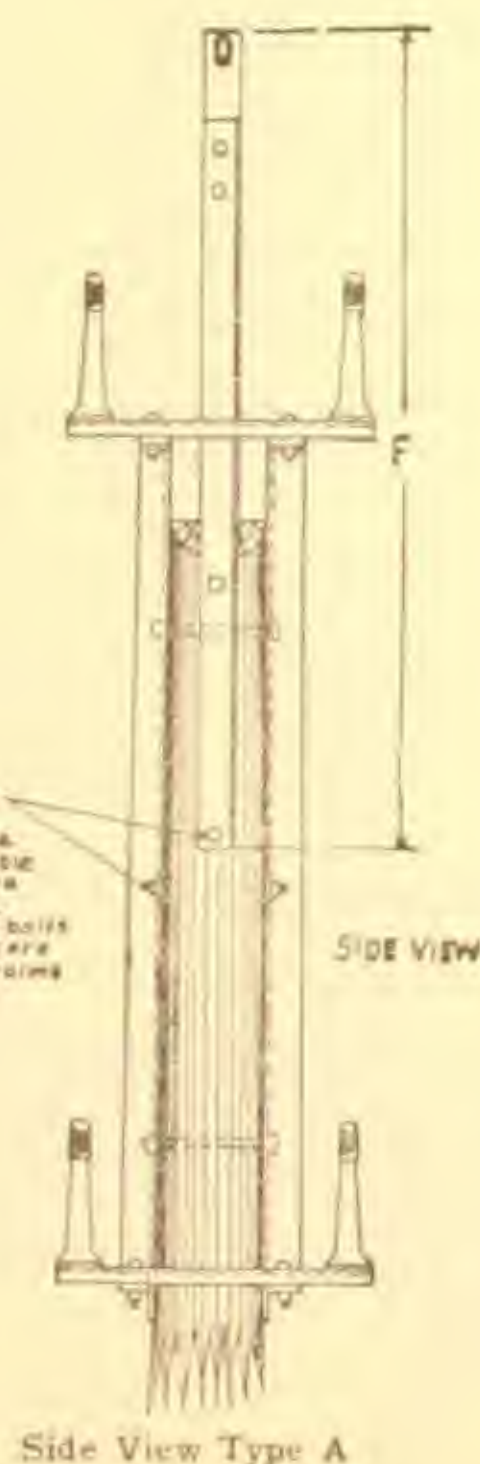
Consists of a right and left-hand bow, a right and left-hand straight arrow, three cross pieces of angle or channel steel, depending on whether forged steel or clamp pins are used, two bolts for fastening bows and arrows together, and six bolts for clamping the cross pieces to the arms. These cross pieces are necessary to give sufficient clearance between the two large high voltage insulators required in each line wire, but are not needed on the 24 and 30-inch arms, in which cases two bows, two straight arrows and a double arming or spreader bolt for fastening the four parts together are furnished.

Type A		Type B		DIMENSIONS, INCHES			Wt. Lbs. Each	Price Each
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Wire Spacing	Size Angle	Size Angle		
165268	6224	165273	6324	24	2 1/2 x 2 1/2 x 1/4	2 1/2 x 2 1/2 x 1/4	43	\$2.40
165269	6230	165274	6330	30	2 1/2 x 2 1/2 x 1/4	2 1/2 x 2 1/2 x 1/4	51	2.80
165270	6236	165275	6336	36	3 x 3 x 1/4	3 x 3 x 1/4	113	5.55
165271	6272	165276	6352	52	3 x 3 x 1/4	3 x 3 x 1/4	139	6.65
165272	6272	165277	6372	72	3 x 3 x 1/4	3 x 3 x 1/4	173	8.10

## CORNER BAYONETS

Two extra bolts are required for attaching corner bayonets to a pole.

Trade No.	Mfrs. No.	For Arm Spacing Inches	DIMENSIONS, INCHES			Wt. Lbs. Each	Price Each
			Length	Size Angle	Size Angle		
165278	6232	24	32	2 x 2 x 3/16	2 x 2 x 3/16	13	\$0.85
165279	6240	30	40	2 x 2 x 3/16	2 x 2 x 3/16	16	1.00
165280	6250	36	50	2 x 2 x 1/4	2 x 2 x 1/4	26	1.30
165281	6266	52	66	2 1/2 x 2 1/2 x 1/4	2 1/2 x 2 1/2 x 1/4	44	2.00
165282	6275	72	75	2 1/2 x 2 1/2 x 1/4	2 1/2 x 2 1/2 x 1/4	50	2.25





## GROUND WIRE BAYONETS AND TERMINALS



No. 6484

No. 6584

## HUBBARD GROUND WIRE BAYONETS

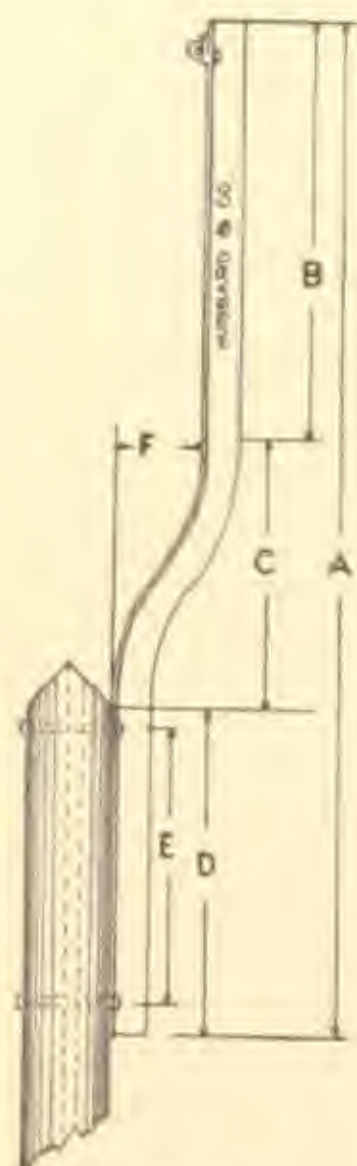
Hot Galvanized or Plain

The Hubbard open hearth steel angle bayonets represent the most secure and economical means of supporting the overhead ground wire on wood or steel poles. The consensus of opinion among operating men is that the proper length of bayonet is that necessary to make the angle between the center line of the pole and a line drawn from the ground wire to the outside line wire not more than 45 degrees.

Corner bayonets are for use at all points at which double arms are required, such as corners in the line, long spans, railroad crossings, etc., and are very much stronger than straight bayonets, even when the latter are made of extra heavy angles. A corner bayonet consists of two angles, one bent, the other straight, fastened together by two  $\frac{1}{2}$ -inch machine bolts.

The offset type of bayonet is used when an overhead ground wire is installed on a single circuit transmission line employing pole top pin or ridge iron construction. The use of offset bayonets is, in general, restricted to the installation of ground wires on existing circuits.

The Belcher Clamps illustrated are not included in bayonet prices.

Dimension  
Diagram

## Straight Bayonets

Trade No.	Mfrs. No.	Length Inches	Size	Angle Inches	Wt., Lbs. Per 100	Price Per 100
168958	6436	36	2	x2 x $\frac{1}{4}$	1000	\$55.00
168959	6448	48	2 $\frac{1}{2}$	x2 $\frac{1}{2}$ x $\frac{1}{4}$	1640	82.00
168960	6466	66	2 $\frac{1}{2}$	x2 $\frac{1}{2}$ x $\frac{1}{4}$	2255	102.00
168961	6484	84	3	x3 x $\frac{1}{4}$	3430	137.00

## Corner Bayonets

168962	6536	36	2	x2 x $\frac{3}{8}$	1370	82.00
168963	6548	48	2	x2 x $\frac{3}{8}$	1825	105.00
168964	6566	66	2	x2 x $\frac{1}{4}$	3350	173.00
168965	6584	84	2 $\frac{1}{2}$	x2 $\frac{1}{2}$ x $\frac{1}{4}$	5500	254.00

## Offset Bayonets

168966	6420	54	2 $\frac{1}{2}$	x2 $\frac{1}{2}$ x $\frac{1}{4}$	1850	120.00
168967	6421	72	2 $\frac{1}{2}$	x2 $\frac{1}{2}$ x $\frac{1}{4}$	2500	150.00
168968	6422	81	3	x3 x $\frac{1}{4}$	3310	195.00

## Dimensions of Offset Bayonets, Inches

	B	C	D	E	F
168969	24 $\frac{1}{2}$	12 $\frac{1}{4}$	17 $\frac{1}{4}$	15	7
168970	40 $\frac{1}{2}$	12 $\frac{1}{4}$	19 $\frac{1}{4}$	17	7
168971	34	21 $\frac{1}{2}$	26 $\frac{1}{2}$	22	7

## PEIRCE TERMINALS FOR GROUNDING WIRES

Tinned Copper

The wire used for connecting the overhead ground wire to the earth is soldered to the tinned copper terminal which is slipped under the head or nut of the bolt fastening the lower end of the bayonet to the pole. This insures a good contact at this point at a low cost of material and labor.



No. 2400

Trade No.	Mfrs. No.	Wt., Lbs. Per 100	Price Per 100
168972	2400	9	\$3.00

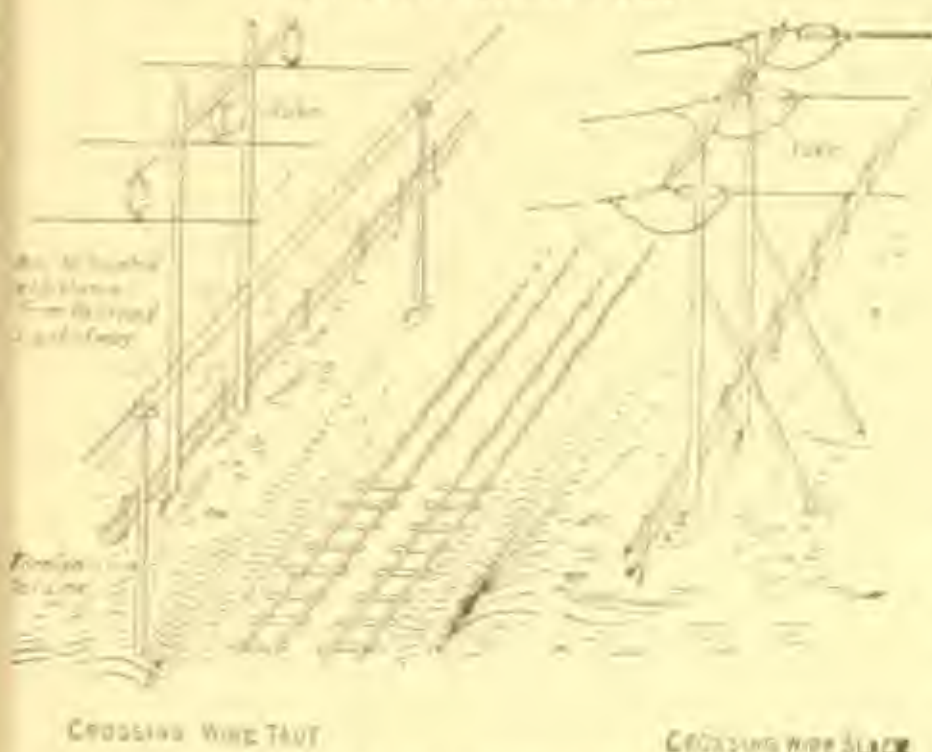


## STRAIN YOKES AND CLEVISES

Hot Galvanized



No. 6770 Strain Yoke



Two Methods of Using Strain Yokes  
at Crossings over Railroads



Pair of Discharge Horns

### BELCHER STRAIN YOKES FOR SUSPENSION INSULATORS

In dead-ending long spans of heavy wire in transmission line construction it is good practice to use two strings of suspension insulators in parallel on each line wire so as to decrease the mechanical stress on the insulator units and thus secure a greater factor of safety, both mechanically and electrically. This is often necessary at crossings over railroads, as is illustrated in the accompanying drawing.

The Belcher Strain Yokes and fittings serve this purpose. The strain yokes are formed of steel plate  $\frac{1}{4}$  inch thick, hot pressed to shape, and support the two strings of insulators 13 inches apart on centers, which is the standard for 10-inch discs. Each yoke is furnished with the three bolts illustrated, and with a hole for the discharge horn bolt.

The equipment required for each string of insulators depends on the kind of connection used at the cross-arm. The discharge or arcing horns, in case of an insulator flashover, hold the arc away from the insulators and prevent its heat from cracking the porcelain. The horns are made of  $2 \times \frac{1}{4}$ -inch flat steel and are furnished in pairs, a pair including one right and one left-hand horn, together with the necessary bolts for attaching them to the strain yokes.

The No. 6790 twist eye is drop-forged. Its eyes are  $\frac{7}{8} \times 1\frac{1}{4}$  inches inside measurements, and the sides are round,  $\frac{5}{8}$ -inch diameter. It is  $4\frac{3}{8}$  inches long over all.

Clevis No. 6793 is drop-forged from  $\frac{1}{2}$ -inch round steel, with a  $\frac{5}{8}$ -inch pin, and has an opening  $\frac{5}{8}$ -inch wide and 2 inches deep, measured from the center of the pin.

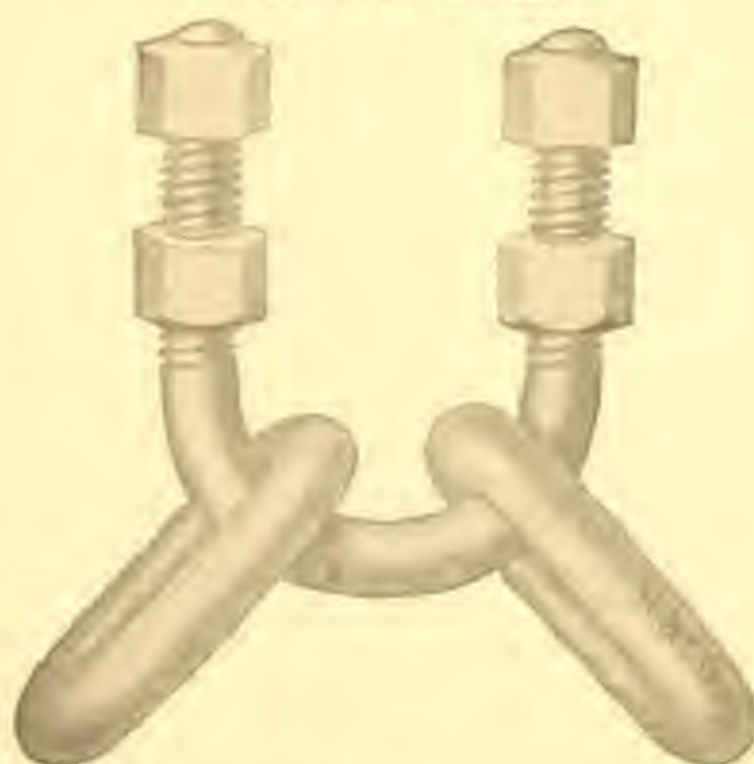
The No. 6796 U bolt is made of  $\frac{3}{4}$ -inch round steel, is 3 inches wide and  $4\frac{1}{2}$  inches deep, inside measurements; has four hexagon nuts and two  $\frac{5}{8}$ -inch links, 3 inches long inside.



No. 6790 Twisteye



No. 6793 Clevis



No. 6796 U Bolt Complete

Trade No.	Mfrs. No.	Description	Wt. Lbs. per 100	Price per 100
75496	6770	Strain yokes	1930*	\$308.00*
75497	6780	Discharge horns	440*	40.00*
75498	6790	Twist eye	100	24.00
75499	6793	Clevis	60	10.80
75500	6796	U bolt	400	40.00

\*Per 100 pairs.

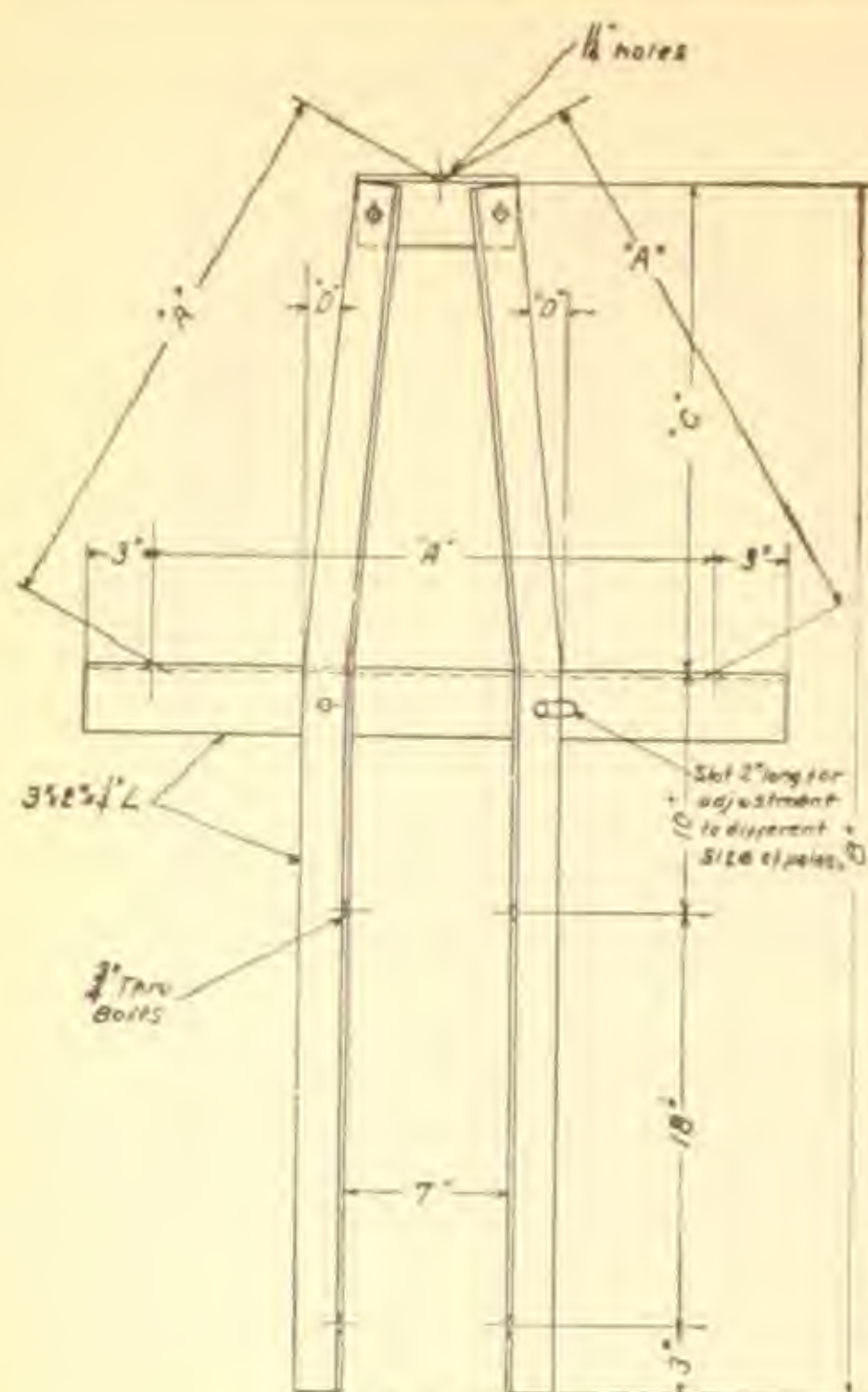


## PEIRCE EXTENSIONS

Hot Galvanized

## HI-TENSION EXTENSIONS

For bringing in a high tension circuit on an existing pole route without replacing the poles or lowering the wires. Fastened to the pole with two through bolts. Adjustable to pole of from 7 to 10 inches in diameter. When bolted to the pole the fixture is very rigid. It is arranged for use with either Peirce Clamp Pins or any pins of the through bolt type. Can be furnished to any special dimensions. Made from 3x2-inch steel angle and thoroughly galvanized.



No. 2370

## 24-inch Triangle Style

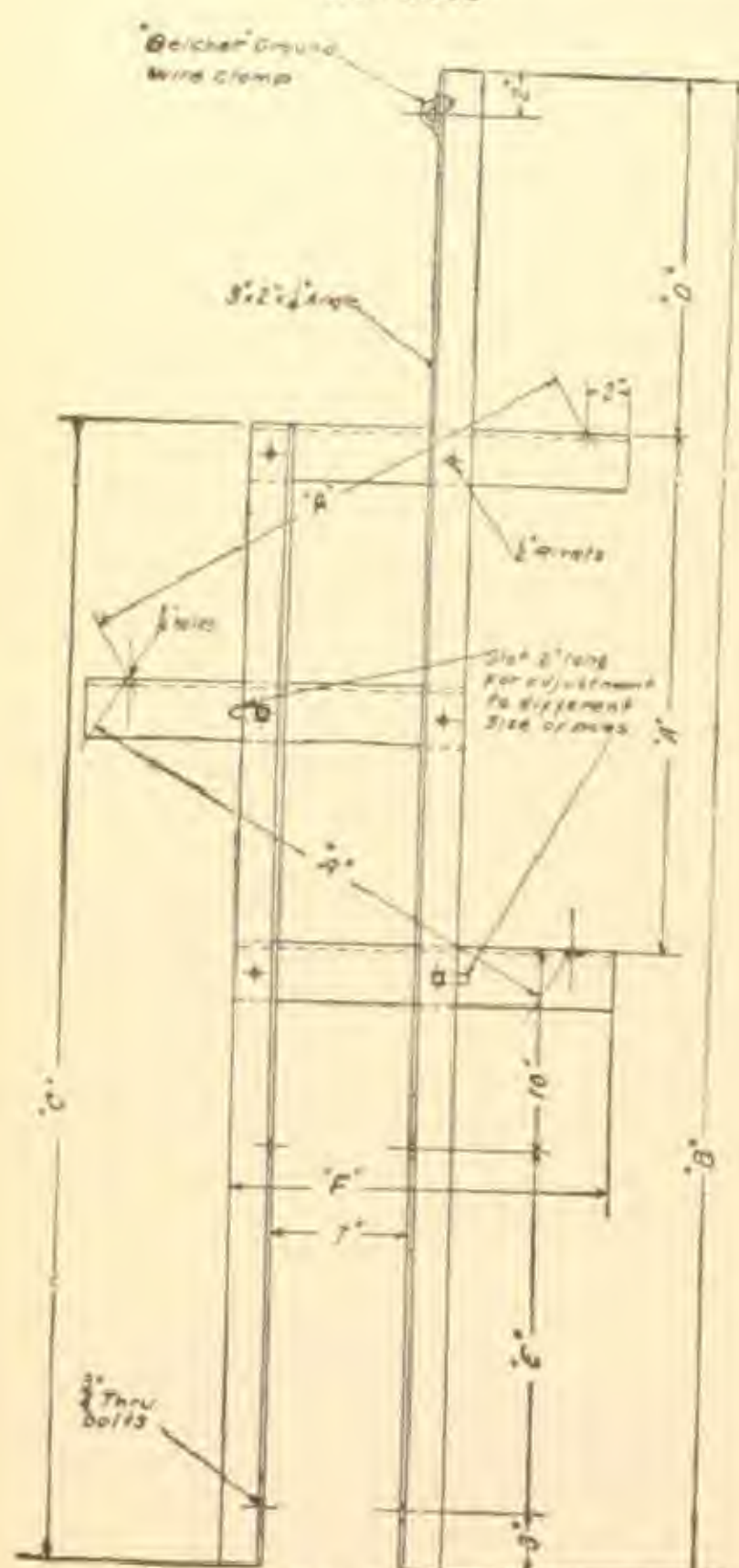
Trade No.	Mfrs. No.	DIMENSIONS, INCHES			Wt., Lbs. Each	Price Each
75411	2370	A	B	C		
		24	52	21	35	\$3.85

## 36-inch Triangle Style

75412	2371	36	62	31	45	4.95
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## HI-TENSION EXTENSIONS WITH BAYONET

Provides for the three circuit wires and the grounded guard wire above. To bring in a high tension circuit over an existing route without replacing the poles or lowering the present wires. It is adjustable to any diameter of pole from 7 to 10 inches. Arranged for use with Peirce Clamp Pins or pins of the through bolt type. Made from 3x2-inch angle and thoroughly galvanized. Extensions of special dimensions can be furnished promptly.



No. 2380

## 26-inch Triangle Style

Trade No.	Mfrs. No.	DIMENSIONS, INCHES						Wt., Lbs. Each	Price Each
75413	2380	A	B	C	D	E	F		
		26	75	57	18	18	19	50	\$5.50

## 36-inch Triangle Style

75414	2381	36	91 1/2	67 1/2	24	18	24	61	6.70
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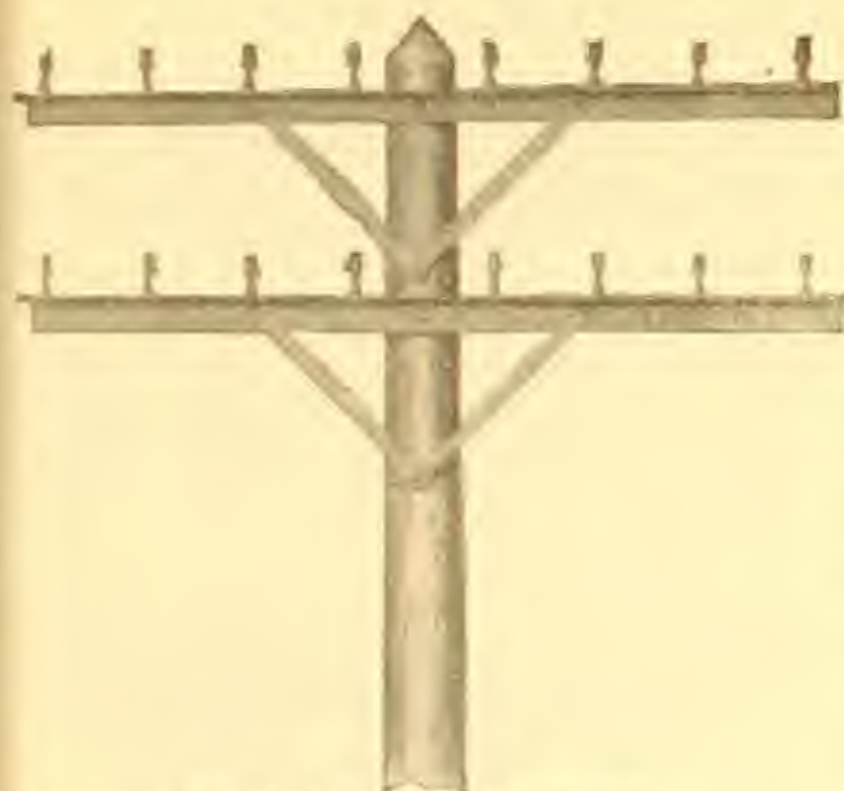
## 52-inch Triangle Style

75415	2382	52	127	95	32	30	30	80	8.80
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# HUBBARD CROSS-ARMS

HOT GALVANIZED



Steel Angle Cross-arms

## ANGLE STEEL CROSS-ARMS

### Telephone

With holes for  $\frac{3}{4}$ -inch steel pins,  $\frac{5}{8}$ -inch through bolts and  $\frac{3}{8}$ -inch brace bolts, unless otherwise ordered.

Trade No.	Mfrs. No.	PIN SPACING, IN.				Dimen. Inches	Wt. Lbs.	Price Each
		No. of Pins	of Lgh. Ins.	Pole Pins	Side Pins			
99595	7602	2	20	16		3x2x $\frac{3}{16}$	5 $\frac{1}{4}$	\$0.77
99596	7604	4	40	16	10	3x2x $\frac{3}{16}$	10 $\frac{1}{4}$	1.50
99597	7606	6	60	16	10	3x3x $\frac{3}{16}$	15 $\frac{1}{2}$	2.10
99598	7608	8	80	16	10	3x3x $\frac{1}{4}$	32 $\frac{3}{4}$	4.40
99599	7610	10	100	16	10	3x3x $\frac{1}{4}$	41	5.42

### Electric Light—N. E. L. A. Standard Spacing

With holes for  $\frac{3}{4}$ -inch steel pins,  $\frac{5}{8}$ -inch through bolts and  $\frac{3}{8}$ -inch brace bolts, unless otherwise ordered.

99600	7612	2	36	30		3x3x $\frac{1}{4}$	14 $\frac{3}{4}$	2.04
99601	7614	4	65	30	14 $\frac{1}{2}$	3x3x $\frac{1}{4}$	26 $\frac{1}{2}$	3.56
99602	7616	6	94	30	14 $\frac{1}{2}$	3 $\frac{1}{2}$ x3 $\frac{1}{2}$ x $\frac{5}{16}$	56 $\frac{1}{2}$	7.34
99603	7618	8	108	30	12	3 $\frac{1}{2}$ x3 $\frac{1}{2}$ x $\frac{5}{16}$	65	8.44

### Power Transmission

With holes for  $\frac{3}{4}$ -inch steel pins,  $\frac{5}{8}$ -inch through bolts and  $\frac{3}{8}$ -inch brace bolts, unless otherwise ordered.

150815	7622	2	28	24		3x3x $\frac{1}{4}$	11 $\frac{2}{3}$	1.64
150816	7632	2	40	36		3x3x $\frac{1}{4}$	16 $\frac{2}{3}$	2.34
150817	7642	2	52	48		3x3x $\frac{1}{4}$	21 $\frac{1}{8}$	3.04
150818	7672	2	76	72		3 $\frac{1}{2}$ x3 $\frac{1}{2}$ x $\frac{5}{16}$	45 $\frac{1}{2}$	5.92
150819	7624	4	76	24	24	3x3x $\frac{1}{4}$	31 $\frac{2}{3}$	4.24
150820	7634	4	112	36	36	3 $\frac{1}{2}$ x3 $\frac{1}{2}$ x $\frac{5}{16}$	67	8.74

## CHANNEL STEEL CROSS-ARMS

### Electric Light—N. E. L. A. Standard Spacing

With holes for  $\frac{3}{4}$ -inch steel pins,  $\frac{5}{8}$ -inch through bolts and  $\frac{3}{8}$ -inch brace bolts, unless otherwise ordered.

99604	7702	2	36	30		4x1 $\frac{1}{2}$ x $\frac{3}{16}$	15 $\frac{3}{4}$	2.22
99605	7704	4	65	30	14 $\frac{1}{2}$	4x1 $\frac{1}{2}$ x $\frac{3}{16}$	28 $\frac{1}{2}$	3.98
99606	7706	6	94	30	14 $\frac{1}{2}$	4x1 $\frac{3}{4}$ x $\frac{11}{32}$	57	7.64
99607	7708	8	108	30	12	4x1 $\frac{3}{4}$ x $\frac{11}{32}$	64 $\frac{1}{4}$	8.80

### Power Transmission

With holes for  $\frac{3}{4}$ -inch steel pins,  $\frac{5}{8}$ -inch through bolts and  $\frac{3}{8}$ -inch brace bolts, unless otherwise ordered.

99624	7722	2	28	24		4x1 $\frac{1}{2}$ x $\frac{3}{16}$	12 $\frac{1}{4}$	1.72
99625	7732	2	40	36		4x1 $\frac{1}{2}$ x $\frac{3}{16}$	17 $\frac{1}{2}$	2.46
99608	7742	2	52	48		4x1 $\frac{1}{2}$ x $\frac{3}{16}$	22 $\frac{3}{4}$	3.18
99609	7772	2	76	72		4x1 $\frac{1}{2}$ x $\frac{3}{16}$	33 $\frac{1}{4}$	4.60
99610	7724	4	76	24	24	4x1 $\frac{3}{4}$ x $\frac{11}{32}$	46	6.24
99626	7773	2	76	72		4x1 $\frac{3}{4}$ x $\frac{11}{32}$	46	6.24
99611	7734	4	112	36	36	4x1 $\frac{3}{4}$ x $\frac{11}{32}$	67 $\frac{3}{4}$	8.98

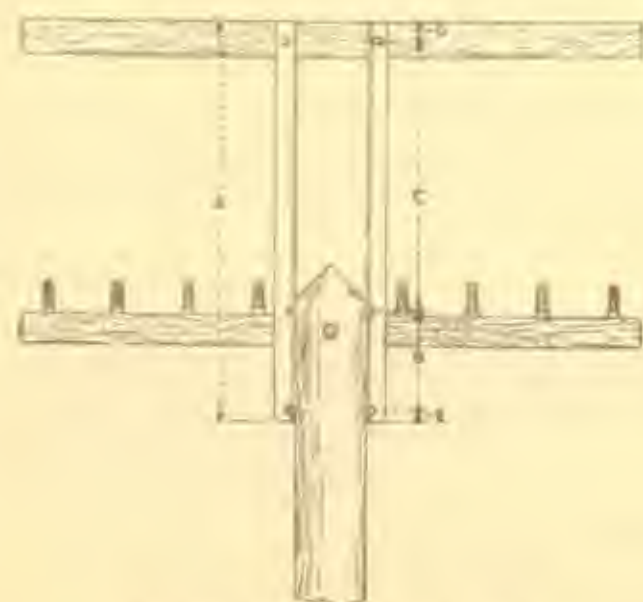
The above prices are for arms only, without pins, braces or bolts.

## POLE EXTENSIONS

Designed to support electric light wires 42 inches above the telephone wires on the first cross arm when the upper through bolt of the extension is located at the top of the telephone arm. The clearance specified, 42 inches, is that required by the Bell companies. Holes for  $\frac{5}{8}$ -inch through bolts. Size angle, 3x3x $\frac{1}{4}$  inches.

Trade No.	Mfrs. No.	Description	—DIMENSIONS, INCHES—					Wt. Lbs.	Price Each
			A	B	C	D	E		
99612	2375	Angles only	70	24	37 $\frac{3}{4}$	4 $\frac{1}{4}$	2	57	\$6.20
99622	2376	Complete	68	24	39	3	2	87	10.20

Other sizes furnished on request.

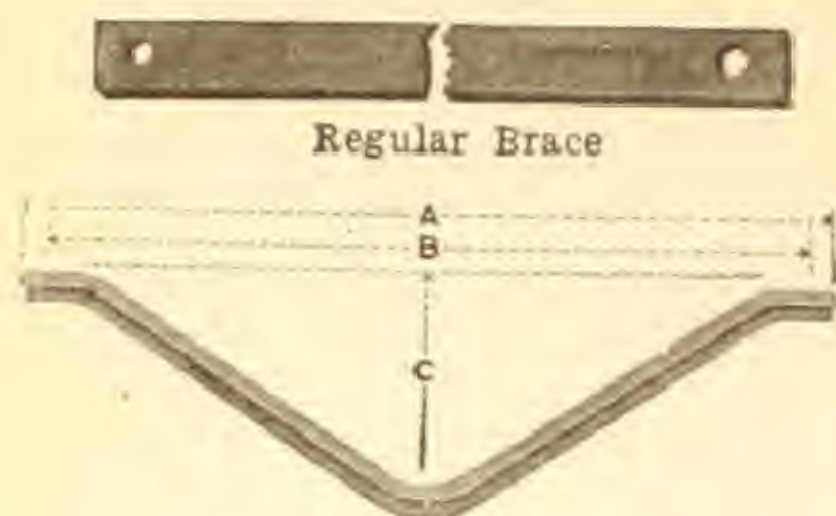


Pole Extension Angle

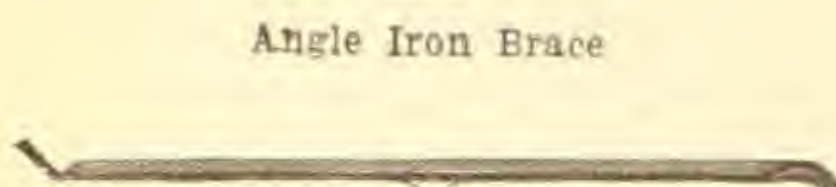


HUBBARD CROSS-ARM BRACES  
HOT GALVANIZED

## REGULAR BRACES



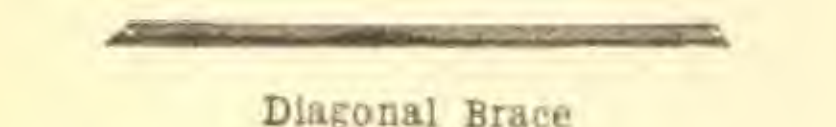
Regular Brace



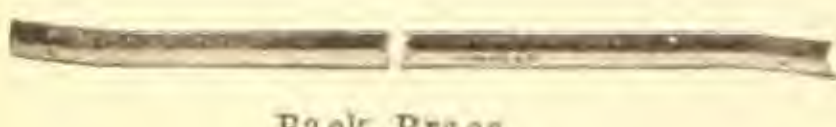
Angle Iron Brace



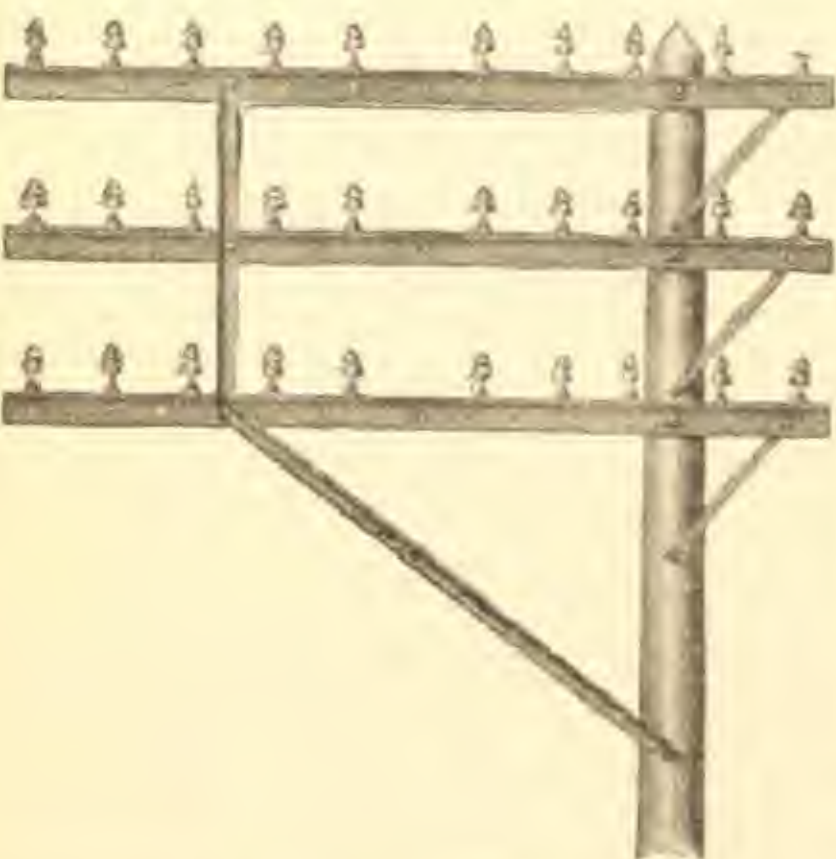
Angle Iron Alley Brace



Diagonal Brace



Back Brace

Showing Diagonal, Back and  
Vertical Brace Assembled

Pole Brace Strut

1x $\frac{3}{8}$ -inch						
Trade No.	Length Inches	Wt., Lbs. per 1000	Price per 100	Trade No.	Length Inches	Wt., Lbs. per 1000
99546	20	1000	\$80.00	99548	24	1200
99547	22	1100	88.00	.....	..	....
1x $\frac{1}{2}$ -inch						
99549	20	1420	105.94	99553	28	1980
99550	22	1560	116.40	99554	30	2120
99551	24	1700	126.84	99555	32	2260
99552	26	1840	137.30	.....	..	....
1x $\frac{3}{4}$ -inch						
99556	20	1670	124.60	99560	28	2335
99557	22	1835	136.90	99561	30	2500
99558	24	2000	149.20	99562	32	2665
99559	26	2165	161.50	.....	..	....

## ANGLE IRON BRACES

Angle iron braces furnished to specifications. When writing please give dimensions, A, B, C, as indicated on illustration, and state size of angle desired.

Trade No.	Mfrs. No.	Size, Angle Inches	DIMENSIONS, IN. A B C	Wt., Lbs. per 100	Price per 100
99563	7950	1 $\frac{1}{2}$ x1 $\frac{1}{2}$ x $\frac{3}{8}$	40 37 12	720	\$95.00
99564	7951	1 $\frac{1}{2}$ x1 $\frac{1}{2}$ x $\frac{3}{8}$	45 42 12	780	100.00
99565	7952	1 $\frac{1}{2}$ x1 $\frac{1}{2}$ x $\frac{3}{8}$	51 48 14 $\frac{3}{4}$	885	111.00
99566	7953	1 $\frac{3}{4}$ x1 $\frac{3}{4}$ x $\frac{3}{8}$	63 60 18	1295	156.00
99567	7954	1 $\frac{3}{4}$ x1 $\frac{3}{4}$ x $\frac{3}{8}$	69 66 20	1365	164.00
99568	7955	1 $\frac{3}{4}$ x1 $\frac{3}{4}$ x $\frac{3}{8}$	75 72 18	1450	173.00
99569	7956	2 x2 x $\frac{3}{8}$	75 72 22	1830	209.00

## ANGLE IRON ALLEY BRACES

## Forged Ends

## Without Step

## With Step

Size, Angle Inches	Wt. Lbs. per 100	Trade No.	Mfrs. No.	Price per 100	Trade No.	Mfrs. No.	Price per 100
1 $\frac{1}{2}$ x1 $\frac{1}{2}$ x $\frac{3}{8}$	5 700	99570	7970	\$93.50	99592	7980	\$133.50
1 $\frac{1}{2}$ x1 $\frac{1}{2}$ x $\frac{3}{8}$	5 1015	99571	7971	127.00	99593	7981	167.00
1 $\frac{1}{2}$ x1 $\frac{1}{2}$ x $\frac{3}{8}$	6 1195	99572	7972	144.50	99594	7982	184.50
1 $\frac{1}{2}$ x1 $\frac{1}{2}$ x $\frac{3}{8}$	7 1375	99573	7973	165.00	99619	7983	205.00
1 $\frac{1}{2}$ x1 $\frac{1}{2}$ x $\frac{3}{8}$	7 1615	99574	7974	191.00	99620	7984	231.00
2 x2 x $\frac{1}{4}$	10 3525	99575	7975	415.00	99621	7985	460.00

Weights are for braces without steps. For steps, add 75 lbs. per 100.

## ALLEY ARM BRACES—A T. T. CO. STANDARD

Diagonal							
Mfrs. No.	Size, Angle Inches			Length Feet	Wt., Lbs. per 100	Price Per 100	
8050	2	x2	x $\frac{3}{16}$	6—11 $\frac{1}{4}$ in.	1750	\$207.00	
Back							
8051	2	x2	x $\frac{1}{4}$	4—2 $\frac{1}{4}$ in.	1350	159.00	
8052	2	x2	x $\frac{1}{4}$	5—2 $\frac{1}{2}$ in.	1665	191.00	
Vertical							
Mfrs. No.	Size, Angle Inches		Length Inches	Spacing Inches	No. of Arms	Wt., Lbs. per 100	Price per 100
8053	2x2x $\frac{1}{4}$		28	12	3	745	\$96.40

## POLE BRACE STRUTS

An extremely strong but inexpensive strut for self-bracing poles.

DIMENSIONS, INCHES						
Trade No.	Mfrs. No.	Extension	Strut Channel	Brace Channel	Wt., Lbs. Each	Price Each
99861	1500	11	2x $\frac{9}{16}$	1x $\frac{1}{2}$	8 $\frac{1}{2}$	\$4.00



# HUBBARD STEEL POLE BANDS

FOR ATTACHING SPAN WIRES TO TUBULAR POLES



Solid Band, Single-bolt

## SOLID BANDS

### Single-bolt

Trade No.	Mfrs. No.	Size of Steel Inches	Nominal Diam. of Pole Inches	Actual Outside Diam. of Pole Inches	Wt. Lbs. per 100	Price per 100
99733	7214	1 1/2 x 3/8	4	4 1/2	160	\$43.00
99734	7214 1/2	1 1/2 x 3/8	4 1/2	5	172	46.50
99735	7215	1 1/2 x 3/8	5	5 1/2	185	50.00
99736	7216	1 1/2 x 3/8	6	6 5/8	210	56.00



Solid Band, Double-bolt

### Double-bolt

99737	7224	1 1/2 x 3/8	4	4 1/2	200	54.00
99738	7224 1/2	1 1/2 x 3/8	4 1/2	5	212	57.50
99739	7225	1 1/2 x 3/8	5	5 1/2	225	61.00
99740	7226	1 1/2 x 3/8	6	6 5/8	250	67.00



Split Band, Double-bolt

## SPLIT BANDS

### Double-bolt

99741	7324	1 1/2 x 3/8	4	4 1/2	205	56.00
99742	7324 1/2	1 1/2 x 3/8	4 1/2	5	220	60.00
99743	7325	1 1/2 x 3/8	5	5 1/2	235	64.00
99744	7326	1 1/2 x 3/8	6	6 5/8	255	68.50



Split Band, Three-bolt

### Three-bolt

99745	7334	1 1/2 x 3/8	4	4 1/2	245	66.00
99746	7334 1/2	1 1/2 x 3/8	4 1/2	5	260	70.00
99747	7335	1 1/2 x 3/8	5	5 1/2	275	74.00
99748	7336	1 1/2 x 3/8	6	6 5/8	295	78.50

## STEEL POLE BANDS AND STEPS

### Solid Band, Single-bolt

99749	7204	1 1/2 x 3/8	4	4 1/2	215	57.00
99750	7204 1/2	1 1/2 x 3/8	4 1/2	5	230	61.00
99751	7205	1 1/2 x 3/8	5	5 1/2	245	65.00
99752	7206	1 1/2 x 3/8	6	6 5/8	260	70.00
99753	7207	1 1/2 x 3/8	7	7 5/8	295	77.00
99754	7208	1 1/2 x 3/8	8	8 5/8	320	84.50
99755	7209	1 1/2 x 3/8	9	9 5/8	345	92.00
99756	7210	1 1/2 x 3/8	10	10 3/4	375	100.00



Solid Band and Step  
Single-bolt

### Split Band, Two-bolt

168981	7304	1 1/2 x 3/8	4	4 1/2	260	70.00
168982	7304 1/2	1 1/2 x 3/8	4 1/2	5	275	74.00
168983	7305	1 1/2 x 3/8	5	5 1/2	290	78.00
168984	7306	1 1/2 x 3/8	6	6 5/8	315	82.50
168985	7307	1 1/2 x 3/8	7	7 5/8	340	90.00
168986	7308	1 1/2 x 3/8	8	8 5/8	365	97.50
168987	7309	1 1/2 x 3/8	9	9 5/8	390	105.00
168988	7310	1 1/2 x 3/8	10	10 3/4	420	113.00



Split Band and Step  
Two-Bolt



DIAMOND EXPANSION BOLTS  
MALLEABLE IRON EXPANSION SHIELDSDiamond N-Y.  
Lag Screw Shield

Double Keystone Shield



Single Keystone Shield

Di-en-key  
Expansion Shield

## MALLEABLE SHIELDS ONLY

DIAMETER SCREW OR BOLT, INCHES								
1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
PRICE PER HUNDRED								
\$15.00	\$18.00	\$25.00	\$32.00	\$38.00	\$45.00	\$65.00	\$95.00	\$110.00

Prices do not include lag screws or wood screws.

## DIMENSIONS

Diameter Screw, In.	DIAMOND N-Y.		DOUBLE KEYSTONE		SINGLE KEYSTONE		DI-EN-KEY	
	Length Inches	Outside Diam., In.	Length Inches	Outside Diam., In.	Length Inches	Outside Diam., In.	Length Inches	Outside Diam., In.
1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 5/8	1 1/2	1	1 1/2
5/16	1 3/4	1 3/4	1 3/4	1 3/4	1 5/8	1 3/4	1 1/4	1 3/4
3/8	2 3/4	2 3/4	2	2 3/4	1 5/8	2 3/4	2	2 3/4
7/16	2 3/4	2 3/4	2 5/8	2 5/8	1 5/8	2 3/4	2 1/2	2 3/4
1/2	3 1/2	3 1/2	2 5/8	2 5/8	1 7/8	2 3/4	2 1/2	2 3/4
5/8	3 1/2	3 1/2	2 7/8	2 7/8	2	2 3/4	2 1/2	2 3/4
3/4	3 1/2	3 1/2	3 3/8	3 3/8	2 3/4	2 3/4	3 3/4	3 3/4
7/8	5	5	4 1/2	4 1/2	3 3/4	3 3/4	...	...
1	5	5	4 1/2	4 1/2	3 3/4	3 3/4	...	...

## ONE PART COMPOSITION SHIELDS ONLY

One Part Composition Shield  
with Round Head Iron Screw

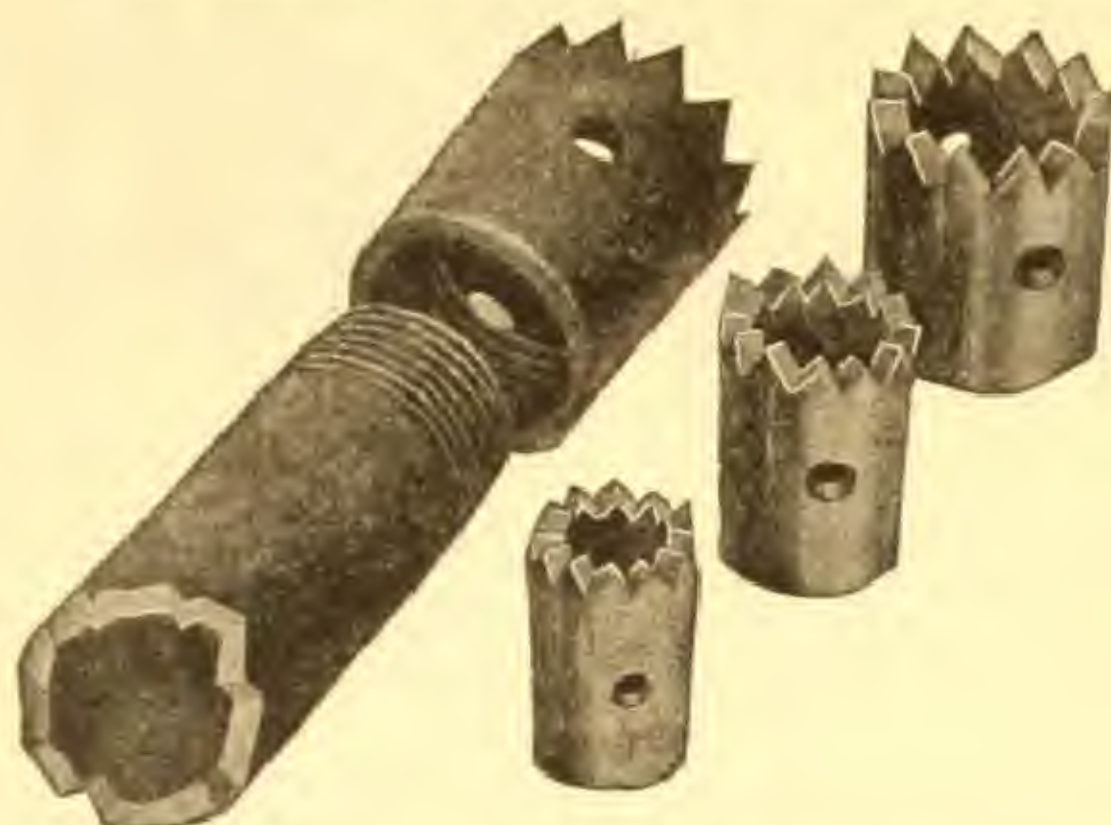
Trade No.	DIMENSIONS, INCHES			Size Screws	Price per 100
	Inside Diam. Shield	Length of Shield	Outside Diam.		
07620	1/8	1 1/2	1 1/4	5-6-7	\$4.40
07621	1/8	5/8	1 1/4	5-6-7	4.40
07622	1/8	3/4	1 1/4	5-6-7	4.40
07623	3/16	1 1/2	1 1/4	8-9-10-11	5.00
07624	3/16	3/4	5/8	8-9-10-11	5.00
07625	3/16	1	5/8	8-9-10-11	5.00
07626	3/16	1 Light	5/8	8-9-10-11	5.00
07627	3/16	1 Heavy	5/8	8-9-10-11	5.00
07628	1/4	1 5/8	3/8	8-9-10-11	6.25
07629	1/4	1 1/2	3/8	12-13-14	5.60
07630	1/4	3/4	3/8	12-13-14	5.60
07631	1/4	1	3/8	12-13-14	5.60
07632	1/4	1 1/2	3/8	12-13-14	8.00
07633	1/4	2	3/8	12-13-14	10.00
07634	1/4	2 1/2	3/8	12-13-14	12.00
07635	5/16	3/4	7/16	15-16-17-18	6.25
07636	5/16	1	7/16	15-16-17-18	6.25
07637	5/16	1 3/8	1 1/2	15-16-17-18	10.00
07638	5/16	1 1/2	7/16	15-16-17-18	10.00
07639	5/16	2	7/16	15-16-17-18	13.00
07640	3/8	1 1/4	9/16	20-22-24	15.00
07641	3/8	2	9/16	20-22-24	15.00
07642	1/2	2	3/4	26-28-30	25.00
07643	5/8	2	7/8	5/8-in. lag	30.00
	5/8	3 1/2	7/8	5/8-in. lag	50.00

Put up in wooden boxes, 100 to a box.



## DIAMOND DRILLS

### DIEXCO EXTENSION DRILL HEADS



Diexco Drill Heads are not made from steel tubing, but are turned from solid bar of best refined tool steel and carefully tempered so as to give the correct combination of hardness for the cutting edges and sufficient ductility to prevent breaking under hardest blows of the hammer.

Trade No.	Mfrs. No.	Size of Pipe for Handle Inches	Diam. of Hole Inches	Price per Doz.	Trade No.	Mfrs. No.	Size of Pipe for Handle Inches	Diam. of Hole Inches	Price per Doz.
09084	2	$\frac{1}{8}$	$\frac{9}{16}$	\$12.00	109093	8	1	2	\$48.00
09085	3	$\frac{1}{4}$	$\frac{11}{16}$	12.00	109094	9	1	$2\frac{1}{4}$	72.00
09086	4	$\frac{3}{8}$	$\frac{7}{8}$	12.00	109095	9A	1	$2\frac{1}{2}$	88.00
09087	5	$\frac{1}{2}$	1	12.00	109096	10	1	$2\frac{3}{4}$	108.00
09088	5A	$\frac{1}{2}$	$1\frac{1}{8}$	14.40	109097	10A	1	3	124.00
09089	6	$\frac{3}{4}$	$1\frac{1}{4}$	16.80	109098	11	$1\frac{1}{4}$	$3\frac{1}{4}$	144.00
09090	6A	$\frac{3}{4}$	$1\frac{3}{8}$	30.00	109099	11A	$1\frac{1}{4}$	$3\frac{1}{2}$	160.00
09091	7	$\frac{3}{4}$	$1\frac{1}{2}$	36.00	109100	11B	$1\frac{1}{4}$	$3\frac{3}{4}$	176.00
09092	7A	1	$1\frac{3}{4}$	42.00	109101	12	$1\frac{1}{4}$	4	192.00
09102	Set made up of one each of Nos. 2, 3, 4 and 5, furnished in wood boxes or on display cards of three sets, per set.....								4.00

### DIAMOND N DRILL HOLDERS AND POINTS



The taper shank on the drill point is carefully machined to fit the holder. The transverse hole in the handle is to admit a tapered pin which drives out the point when it is to be removed. The advantage of this drill over the one-piece regular drills is that in the smaller sizes a better grip can be had and a harder blow struck.

Drill Holders					
Trade No.	Description		Price per Doz.		
09103	Holder to take drill points from $\frac{1}{4}$ to $\frac{3}{4}$ inch.....		\$48.00		
Drill Points					
Trade No.	Size Inches	Price per Doz.	Trade No.	Size Inches	Price per Doz.
09104	$\frac{1}{4}$	\$17.00	109108	$\frac{1}{2}$	\$20.00
09105	$\frac{5}{16}$	17.00	109109	$\frac{5}{8}$	24.00
09106	$\frac{3}{8}$	17.00	109110	$\frac{3}{4}$	28.00
09107	$\frac{7}{8}$	18.00	.....	.....	.....
Sets					
Trade No.	Description				Price per Set
09111	Set made up of one holder, one ejector pin and six points assorted of any of the above sizes, put up in wooden box.....				\$15.00



## DIAMOND RAPID FIRE DRILLS AND POINTS



Rapid Fire Drill



Extra Drill Points

The Diamond Rapid Fire Drill reproduces the same action as is produced with the hand hammer and drill, with greatly multiplied speed.

The Diamond Rapid Fire Drill is the most economical means of drilling holes for expansion bolts. Its saving in time and labor and its convenience in use will, in a short time, pay for the cost of the tool.

With every revolution of the crank eight sharp blows are struck.

No vibration. Its action is percussive, and its mechanism is so constructed that practically no vibration or concussion is felt by the operator.

Each drill has three adjustments, hard, medium and soft, controlled by a spring lever at the side of the housing. The springs are easily changed by removing the cover of the housing without disarranging or unfastening any of the parts of the mechanism.

Trade No.	Description	Price Each
54242	Drill only, without drill points.....	\$32.00

## STANDARD DRILL POINTS

Trade No.	Diam. Inches	Length Inches	Depth of Hole Inches	Price Each	Trade No.	Diam. Inches	Length Inches	Depth of Hole Inches	Price Each
54161	1/4	4 1/4	3	\$0.71	54166	5/8	6	4 1/2	\$1.00
54162	5/16	4 1/4	3	.71	54167	3/4	6	4 1/2	1.17
54163	3/8	4 1/4	3	.71	54168	7/8	6 1/2	5	1.33
54164	7/16	4 1/4	3	.75	54169	1	6 1/2	5	1.50
54165	1/2	6	4 1/2	.84	.....	.....	.....	.....	.....

Complete set (eight sizes) 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4 and 1, \$7.40 list.

## EXTRA LENGTHS OF DRILL POINTS

Trade No.	Diam. Inches	Length Inches	Price per Doz.	Trade No.	Diam. Inches	Length Inches	Price per Doz.	Trade No.	Diam. Inches	Length Inches	Price per Doz.
54170	1/4	12	\$8.50	54183	1/4	18	\$11.00	54196	1/4	24	\$13.50
54171	5/16	12	8.50	54184	5/16	18	11.00	54197	5/16	24	13.50
54172	3/8	12	8.50	54185	3/8	18	11.00	54198	3/8	24	13.50
54173	7/16	12	9.00	54186	7/16	18	11.50	54199	7/16	24	14.00
54174	1/2	12	10.00	54187	1/2	18	12.50	54200	1/2	24	15.00
54175	5/8	12	12.00	54188	5/8	18	15.00	54201	5/8	24	17.50
54176	3/4	12	14.00	54189	3/4	18	17.50	54233	3/4	24	20.00
54177	7/8	12	16.00	54190	7/8	18	20.00	54234	7/8	24	22.50
54178	1	12	18.00	54191	1	18	22.50	54235	1	24	25.00
54179	1 1/8	12	24.00	54192	1 1/8	18	28.00	54236	1 1/8	24	32.00
54180	1 1/4	12	30.00	54193	1 1/4	18	35.00	54237	1 1/4	24	40.00
54181	1 3/8	12	40.00	54194	1 3/8	18	45.00	54238	1 3/8	24	50.00
54182	1 1/2	12	50.00	54195	1 1/2	18	56.00	54239	1 1/2	24	62.00

## CEILING STANDS FOR DIAMOND RAPID FIRE DRILLS

The Diamond Rapid Fire Ceiling Stand is light, made of best quality cold-drawn seamless tubing, the sections telescoping together and can be easily carried about by the operator. The automatic spring feed attachments will supply the required pressure for holes up to 8 inches deep without readjustment. The ball and socket joints at base will permit of it being readily adjusted to any angle or level of the floor.

Trade No.	Style	Description	Price Each
54240	A	For ceilings 7 to 12 feet.....	\$18.00
54241	B	For ceilings 8 to 20 feet.....	22.50



## PEIRCE DRILLS AND BOLTS



Hammer Drill



1/2x4-inch Drill Point



5/8x6-inch Drill Point

### HAMMER DRILLS

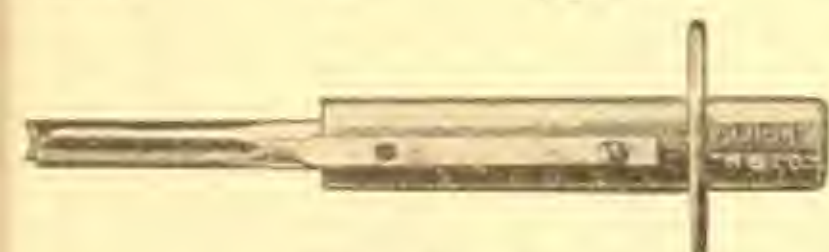
The Peirce Hammer Drill is a double-ended tool designed for drilling holes easily in brick, stone and concrete. It drills the hole and swages the lead sleeve of the bolt. Holds all sizes of drill points. Points easily removed for sharpening.

Trade No.	Mfrs. No.	For Tamping Bolts, In.	Price Each	Trade No.	Mfrs. No.	For Tamping Bolts, In.	Price Each
042057	50	3/4	\$6.28	042058	53	3/8	\$6.68

### DRILL POINTS

For 1/4-inch expansion bolts, 1/2x4 or 6-inch drill points are used; for 3/8-inch bolts, 5/8x6-inch points; for 1/2-inch bolts, 7/8-inch points, the length of drill point depending on the length of bolt used. 1 3/4 inches of drill point is held inside the chuck. All drill points are measured over all except the 12-inch which are 14 inches over all.

Trade No.	Mfrs. No.	Size Inches	Price Each	Trade No.	Mfrs. No.	Size Inches	Price Each
74701	56	3/8x4	\$0.86	042061	61	5/8x12	\$1.58
042059	57	1/2x4	.86	042062	62	3/4x6	1.48
74702	58	1/2x6	.96	042063	63	3/4x12	1.78
74703	59	1/2x12	1.06	042064	64	7/8x6	1.58
042060	60	5/8x6	1.26	042065	65	7/8x12	1.90



Hand Chuck

### PEIRCE HAND CHUCKS FOR DRILL POINTS

Permits the use of Peirce Drill Points with the old method of hand-and-hammer drilling.

Trade No.	Mfrs. No.	Price, Each
74707	55	\$0.88

### TAMPING TOOLS FOR EXPANSION BOLTS

Trade No.	Mfrs. No.	Diam. Bolt Inches	Price Each	Trade No.	Mfrs. No.	Diam. Bolt Inches	Price Each
74708	67	1/4	\$0.20	36545	69	1/2	\$0.20
74709	68	3/8	.20				



Tamping Tool

### PEIRCE OFFSET SWAGING TOOLS

Designed for tamping the lead sleeves of Peirce Ring and Knob Bolts.

Trade No.	Mfrs. No.	Price, Each
74710	2970	\$0.80



Swaging Tool

### EXPANSION BOLTS

Trade No.	Mfrs. No.	Size Inches	Price per 100	Trade No.	Mfrs. No.	Size Inches	Price per 100
042066	1	1/4x1 3/4	\$3.20	042074	9	3/8x5	\$7.70
042067	2	1/4x2	3.30	042075	10	3/8x5 1/2	8.10
042068	3	1/4x2 1/2	3.40	042076	11	1/2x2 1/2	8.10
042069	4	1/4x3 1/4	4.00	042077	12	1/2x3 1/2	8.90
36546	4A	1/4x4	4.50	042078	13	1/2x4	9.30
36547	4B	1/4x5	5.70	042079	14	1/2x4 1/2	9.70
042070	5	3/8x2 1/2	5.60	042080	15	1/2x5	10.10
042071	6	3/8x3	5.90	042081	16	1/2x5 1/2	10.50
042072	7	3/8x3 1/2	6.40	042082	17	1/2x6 1/2	11.30
042073	8	3/8x4 1/2	7.20	042083	18	1/2x8	12.60

### EXTRA LEAD SLEEVES

Trade No.	Mfrs. No.	Diam. In.	Price per 100	Trade No.	Mfrs. No.	Diam. In.	Price per 100
74704	22	1/4	\$1.10	74706	24	1/2	\$5.20
74705	23	3/8	1.80				

### RING BOLTS

Trade No.	Mfrs. No.	Diam. Eye, In.	Wt., Lbs. per 100	Price per 100
042084	2950	3/4	13	\$3.60
042085	2951	1	14	4.10
042086	2952	1 1/4	15	4.54
042087	2953	1 3/4	17	5.28



Expansion Bolt



Ring Bolt



## AJAX TOGGLE BOLTS

### REGULAR TOGGLES

Quickly put in place. Stays close to the bolt, instead of flopping loosely and catching outside the wall or between the tile and plaster. Then, when pushed through the hole, a half turn of the head drops the head squarely. Only the head of the bolt is exposed, leaving the surplus thread inside the wall, where it does not need to be cut off or covered up.



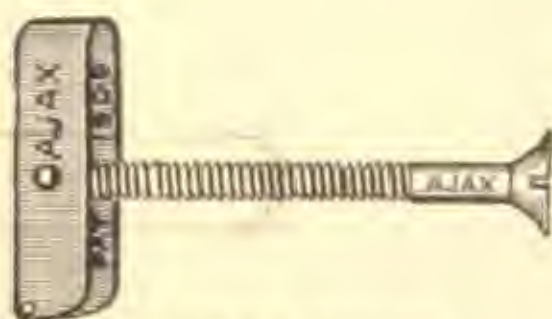
Regular Toggle

Trade No.	Size Inches	Price per 100
162216	$\frac{1}{8}$ x3	\$3.40
162217	$\frac{1}{8}$ x4	3.80
162218	$\frac{1}{8}$ x3*	5.00
162219	$\frac{1}{8}$ x4*	5.40
162220	$\frac{3}{16}$ x3	3.60
162223	$\frac{3}{16}$ x4	4.00
162224	$\frac{3}{16}$ x6	4.80
162225	$\frac{1}{4}$ x3	4.00
162226	$\frac{1}{4}$ x4	4.40
162227	$\frac{1}{4}$ x6	5.20

\*Nickel-plated; used for bath room fixtures.

### MOLDING TOGGLES

Used for fastening molding or any other article requiring a flat head screw to tile, hollow brick, marble or plastered partitions.



Molding Toggle

Trade No.	Size Inches	Price per 100
162247	$\frac{1}{8}$ x3	\$3.40
162228	$\frac{1}{8}$ x4	3.80
162229	$\frac{3}{16}$ x3	3.60
162230	$\frac{3}{16}$ x4	4.00
162231	$\frac{1}{4}$ x3	4.00
162232	$\frac{1}{4}$ x4	4.40

### FLAT TOGGLES

For use where the object fastened in place may need to be removed and replaced. Slips through a  $\frac{3}{8}$ -inch hole, but exposes the nut and the surplus thread.



Flat Toggle

Trade No.	Size Inches	Price per 100
162233	$\frac{3}{16}$ x3	\$3.20
162234	$\frac{3}{16}$ x4	3.40
162235	$\frac{3}{16}$ x6	3.80
162236	$\frac{1}{4}$ x3	4.00
162237	$\frac{1}{4}$ x4	4.40
162238	$\frac{1}{4}$ x6	5.20

### PLUMBERS' TOGGLES

Have a removable nickel-plated head so that they can be inserted in the wall before the object to be fastened is slipped over the bolt.



Plumbers' Toggle

Trade No.	Size Inches	Price per 100
162239	$\frac{3}{16}$ x3	\$6.60
162240	$\frac{3}{16}$ x4	7.00
162243	$\frac{3}{16}$ x6	7.80
162244	$\frac{1}{4}$ x3	8.00
162245	$\frac{1}{4}$ x4	8.40
162246	$\frac{1}{4}$ x6	9.20



## TOGGLE BOLTS



Square  
Rigid Back  
Toggle



Hexagon  
Cap  
Toggle



Round Cap  
Toggle



Cone Cap  
Toggle



Flat Head  
Toggle



Round Head  
Toggle



Cutter Toggle

### WRIGLEY TOGGLE BOLTS

Patent Steel, with Double Flanged Sides and Rigid Back

The  $\frac{3}{8}$ -inch size can be pushed through a  $\frac{3}{8}$ -inch hole and instantly anchors itself securely.

By turning it half way around, it will come out, or by pushing it up, it will drop out.

Trade No.	Size Inches	Price per 100	Trade No.	Size Inches	Price per 100
51921	$\frac{1}{8}$ x3	\$3 85	51933	$\frac{1}{4}$ x6	\$7 50
51922	$\frac{1}{8}$ x4	4 00	51934	$\frac{5}{16}$ x3	8 75
51923	$\frac{3}{16}$ x2 $\frac{1}{2}$	4 00	51935	$\frac{5}{16}$ x4	9 00
51924	$\frac{3}{16}$ x3 $\frac{1}{2}$	4 25	51936	$\frac{5}{16}$ x5	9 50
51925	$\frac{3}{16}$ x4	4 25	51937	$\frac{5}{16}$ x6	10 00
51926	$\frac{3}{16}$ x5	4 60	51938	$\frac{3}{8}$ x3	10 00
51927	$\frac{3}{16}$ x6	4 80	51939	$\frac{3}{8}$ x4	12 00
51928	$\frac{1}{4}$ x2 $\frac{1}{2}$	6 25	51940	$\frac{3}{8}$ x5	14 00
51929	$\frac{1}{4}$ x3	6 25	51941	$\frac{3}{8}$ x6	15 50
51930	$\frac{1}{4}$ x3 $\frac{1}{2}$	6 65	51942	$\frac{7}{16}$ x4	13 75
51931	$\frac{1}{4}$ x4	6 90	51943	$\frac{7}{16}$ x5	15 00
51932	$\frac{1}{4}$ x5	7 15	51944	$\frac{7}{16}$ x6	16 00

### TRUNNION NUT STEEL TOGGLE BOLTS

Trunnion nut steel toggle bolt screws through the toggle key or plate the full length. Has a hexagon or a round screwdriver nut, flat or cone shape, which can be taken off after the bolt has been inserted to place on the fixture. Is used for marble slabs, telephone boxes and finished work.

Trade No.	Size Inches	Style Head	Style Nut	Price per 100
51945	$\frac{3}{16}$ x4	Hexagon Cap	Plain	\$10 50
51946	$\frac{3}{16}$ x4	Hexagon Cap	Plated	13 50
51947	$\frac{1}{4}$ x4	Hexagon Cap	Plain	14 00
51948	$\frac{1}{4}$ x4	Hexagon Cap	Plated	17 00
51949	$\frac{5}{16}$ x4	Hexagon Cap	Plain	17 00
51950	$\frac{5}{16}$ x4	Hexagon Cap	Plated	20 00
51951	$\frac{1}{8}$ x3	Round Cap	Plain	8 00
51952	$\frac{3}{16}$ x4	Round Cap	Plain	10 50
51953	$\frac{1}{4}$ x4	Round Cap	Plain	14 00
51954	$\frac{1}{8}$ x3	Cone Cap	Plain	8 00
51955	$\frac{3}{16}$ x4	Cone Cap	Plain	10 50
51956	$\frac{1}{4}$ x4	Cone Cap	Plain	14 00
51957	$\frac{1}{8}$ x2	Flat Head	Plain	4 75
51958	$\frac{1}{8}$ x3	Flat Head	Plain	5 00
51959	$\frac{3}{16}$ x3	Flat Head	Plain	5 00
51960	$\frac{1}{8}$ x4	Flat Head	Plain	5 50
51961	$\frac{3}{16}$ x4	Flat Head	Plain	5 50
51962	$\frac{1}{4}$ x4	Flat Head	Plain	7 50
51963	$\frac{5}{16}$ x4	Flat Head	Plain	10 00
51964	$\frac{1}{8}$ x2	Round Head	Plain	4 75
51965	$\frac{1}{8}$ x3	Round Head	Plain	5 00
51966	$\frac{3}{16}$ x3	Round Head	Plain	5 00
51967	$\frac{1}{8}$ x4	Round Head	Plain	5 50
51968	$\frac{3}{16}$ x4	Round Head	Plain	5 50
51969	$\frac{1}{4}$ x4	Round Head	Plain	7 50
51970	$\frac{5}{16}$ x4	Round Head	Plain	10 00

Standard package, 100 on all the above.

### CUTTER TOGGLE BOLTS

Double Offset Iron Head

Mfrs. No.	Style	Size Inches	Price per 100
W23911	Slender	$\frac{1}{8}$ x3	\$3 40
W23912	Slender	$\frac{1}{8}$ x4	3 80
W23913	Slender	$\frac{1}{8}$ x6	4 40
W23914	Regular	$\frac{3}{16}$ x3	3 60
W23915	Regular	$\frac{3}{16}$ x4	4 00
W23916	Regular	$\frac{3}{16}$ x6	5 00
W23910	Quarter-inch	$\frac{1}{4}$ x3	5 60
W23917	Quarter-inch	$\frac{1}{4}$ x4	6 00
W23918	Quarter-inch	$\frac{1}{4}$ x5	7 00
W23919	Jumbo	$\frac{5}{16}$ x4	8 00
W23920	Jumbo	$\frac{5}{16}$ x6	10 00



## HEMINGRAY GLASS INSULATORS



No. 9



No. 10



No. 12



No. 13

## No. 9 PONY



No. 14

Trade No.	Height	DIMENS. OVER ALL, IN. Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036469	3 $\frac{1}{4}$	2 $\frac{1}{4}$	$\frac{3}{8}$	400	270	\$94.70

## No. 10 EXCHANGE LINE

Trade No.	Height	DIMENS. OVER ALL, IN. Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
83877	3 $\frac{1}{4}$	2 $\frac{1}{2}$	$\frac{1}{6}$	350	265	\$114.90

## No. 12 DOUBLE GROOVE PONY



No. 15

Trade No.	Height	DIMENS. OVER ALL, IN. Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036470	3 $\frac{5}{8}$	2 $\frac{3}{8}$	$\frac{3}{8}$ Top, $\frac{1}{4}$ Bot.	400	310	\$94.60

## No. 13 NATIONAL PONY—OLD No. 4

Trade No.	Height	DIMENS. OVER ALL, IN. Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036468	3 $\frac{1}{4}$	2 $\frac{1}{2}$	$\frac{3}{8}$	300	245	\$114.90

## No. 14 DEEP GROOVE, DOUBLE PETTICOAT PONY



No. 16

Trade No.	Height	DIMENS. OVER ALL, IN. Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036467	3 $\frac{3}{8}$	2 $\frac{7}{8}$	$\frac{3}{8}$	300	260	\$120.40

## No. 15 WESTERN UNION—OLD No. 5

Trade No.	Height	DIMENS. OVER ALL, IN. Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
83878	4 $\frac{3}{8}$	2 $\frac{3}{4}$	$\frac{3}{8}$	200	290	\$168.30

## No. 16 LONG DISTANCE



No. 18

Trade No.	Height	DIMENS. OVER ALL, IN. Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036471	4	2 $\frac{5}{8}$	$\frac{3}{8}$	300	300	\$129.50

## No. 18 DEEP GROOVE

Trade No.	Height	DIMENS. OVER ALL, IN. Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036464	4	2 $\frac{7}{8}$	$\frac{1}{2}$	250	300	\$142.20



# HEMINGRAY GLASS INSULATORS



No. 19



No. 20



No. 21

## No. 19 DEEP GROOVE, DOUBLE PETTICOAT

Line Voltage, 5000

Trade No.	DIMENSIONS, OVER ALL, INCHES Height	Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036465	3 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	200	276	\$168.30



No. 42

## No. 20 STREET RAILWAY OR EXTRA DEEP GROOVE DOUBLE PETTICOAT

Line Voltage, 5000

Trade No.	DIMENSIONS, OVER ALL, INCHES Height	Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036466	4	3 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	200	275	\$168.30

## No. 21 WESTERN UNION, DOUBLE PETTICOAT

Trade No.	DIMENSIONS, OVER ALL, INCHES Height	Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036462	4 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	200	310	\$174.80

## No. 42 DOUBLE PETTICOAT

Line Voltage, 5000

Trade No.	DIMENSIONS, OVER ALL, INCHES Height	Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
83901	3 <sup>5</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	175	300	\$187.80

## No. 50 TWO-PIECE TRANSPOSITION

Trade No.	DIMENSIONS, OVER ALL, INCHES Height	Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036474	5	3 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub> Top 3 <sup>3</sup> / <sub>8</sub> Bot.	125	240	\$355.90

## No. 51 PERFECT TRANSPOSITION

OLD No. 1

Trade No.	DIMENSIONS, OVER ALL, INCHES Height	Diam.	Groove	Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
036472	5 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub> Top 1 <sup>1</sup> / <sub>2</sub> Bot.	100	250	\$355.90



No. 51



## HEMINGRAY GLASS INSULATORS



No. 52



No. 53



Nos. 60 and 60A

## No. 52 TRANSPOSITION—OLD No. 2

Trade No.	Height	DIMENS. OVER ALL, INCHES		Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
		Diam.	Groove			
036473	4 $\frac{3}{4}$	3 $\frac{1}{4}$	$\frac{3}{8}$ Top $\frac{3}{8}$ Bot.	125	250	\$258.70



No. 61

## No. 53 TRANSPOSITION—OLD No. 14

Trade No.	Height	DIMENS. OVER ALL, INCHES		Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
		Diam.	Groove			
83889	4 $\frac{1}{2}$	4	$\frac{3}{8}$ Top $\frac{5}{8}$ Bot.	100	235	\$291.20

## No. 60 CABLE

Trade No.	Height	DIMENS. OVER ALL, INCHES		Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
		Diam.	Groove			
036459	5	3 $\frac{1}{4}$	1 $\frac{1}{2}$	100	230	\$258.70



No. 62

## No. 60A CABLE

Trade No.	Height	DIMENS. OVER ALL, INCHES		Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
		Diam.	Groove			
83903	5	3 $\frac{1}{2}$	2	100	230	\$258.70

## No. 61 CABLE—OLD No. 1

Trade No.	Height	DIMENS. OVER ALL, INCHES		Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
		Diam.	Groove			
83904	3 $\frac{3}{4}$	3 $\frac{1}{4}$	1	200	255	\$226.40

## No. 62 CABLE—OLD No. 2

Trade No.	Height	DIMENS. OVER ALL, INCHES			VOLTAGE TEST		Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
		Diam.	Groove	Dry	Wet	Line			
036458	4	3 $\frac{5}{8}$	1 $\frac{1}{4}$	49000	21000	6600	125	270	\$258.70



No. 63

## No. 63 CABLE—OLD No. 3

Trade No.	Height	DIMENS. OVER ALL, INCHES			VOLTAGE TEST		Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
		Diam.	Groove	Dry	Wet	Line			
83905	5 $\frac{7}{8}$	4 $\frac{1}{4}$	2	55000	26000	7500	65	245	\$420.60



## HEMINGRAY GLASS INSULATORS



No. 71



No. 72



No. 73

### No. 71 HIGH VOLTAGE (OLD No. 1)

Trade No.	VOLTAGE TEST			Std. Pkg.	Wt., lbs. per 8bl.	Price per 1000
	Dry	Wet	Line			
036454	50000	29000	10000	100	250	\$232.90

Dimensions, inches: Height,  $3\frac{3}{4}$ ; diameter,  $4\frac{3}{4}$ ; groove,  $\frac{5}{8}$ .



No. 74

### No. 72 HIGH VOLTAGE (OLD No. 4)

83917	62000	30000	11000	100	270	232.90
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Dimensions, inches: Height, 4; diameter,  $4\frac{3}{4}$ ; top groove, 1 inch; side groove,  $\frac{3}{4}$ .

### No. 73 PROVO TYPE (OLD No. 2)

036455	75000	32000	13200	65	215	368.20
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Dimensions, inches: Height,  $4\frac{3}{4}$ ; diameter,  $5\frac{1}{2}$ ; top groove,  $\frac{3}{4}$ ; bottom groove,  $\frac{1}{2}$ .



Nos. 75 and 76

### No. 74 PROVO TYPE (OLD No. 1)

036453	88000	39000	15000	25	175	557.00
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Dimensions, inches: Height, 6; diameter, 7; top groove,  $\frac{5}{8}$ ; center groove,  $\frac{3}{8}$ ; bottom groove,  $\frac{1}{2}$ .

Made for standard 1-inch and special  $1\frac{3}{8}$ -inch pins.

### No. 75 (7-INCH) MUNCIE TYPE

036452	90000	40000	15000	30	185	557.00
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Dimensions, inches: Height,  $4\frac{7}{8}$ ; diameter, 7; groove,  $\frac{7}{8}$ .

Made for standard 1-inch and special  $1\frac{3}{8}$ -inch pins.

### No. 76 (9-INCH) MUNCIE TYPE

83918	110000	48000	20000	16	190	928.30
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Dimensions, inches: Height,  $5\frac{7}{8}$ ; diameter, 9; groove,  $\frac{7}{8}$ .

### No. 77 (9-INCH) MUNCIE SLEEVE

83919	.....	.....	.....	32	180	675.00
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Dimensions, inches: Height, 8; diameter,  $5\frac{1}{2}$ .

### No. 78 (9-INCH) MUNCIE TYPE ASSEMBLED

83920	140000	77000	33000	8	160	1603.00
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Dimensions, inches: Height,  $13\frac{7}{8}$ ; diameter, 9; groove,  $\frac{7}{8}$ .



No. 78 Insulator with No. 77 Sleeve



## HEMINGRAY GLASS INSULATORS



No. 100



No. 101



No. 102



No. 103

## No. 100 INSULATING OR BREAK KNOBS—OLD No. 1



No. 107

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036432	1½	1½	¾	¾	500	100	\$77.80

## No. 101 INSULATING OR BREAK KNOBS—OLD No. 1½

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036435	1¾	1½	¾	¾	500	145	\$87.60



No. 108

## No. 102 INSULATING OR BREAK KNOBS—OLD No. 2

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036434	1¾	2	¾	¾	500	220	\$90.70

## No. 103 INSULATING OR BREAK KNOBS—OLD No. 3

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036433	2	2	¾	¾	500	230	\$90.70



No. 95

## No. 107 INSULATING OR BREAK KNOBS—OLD No. 7

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036436	1¾	2	¾	¾	500	230	\$90.70

## No. 108 INSULATING OR BREAK KNOBS—OLD No. 8

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036438	3¾	2¾	1	¾	200	300	\$339.80



No. 90

## No. 95 MINE INSULATORS—OLD No. 1

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036437	3½	2¾	¾	Std. Ser.	200	295	\$291.30

## No. 90 SPAN WIRE INSULATORS—OLD No. 10

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036439	2¾	2¼	¾		500	360	\$323.50



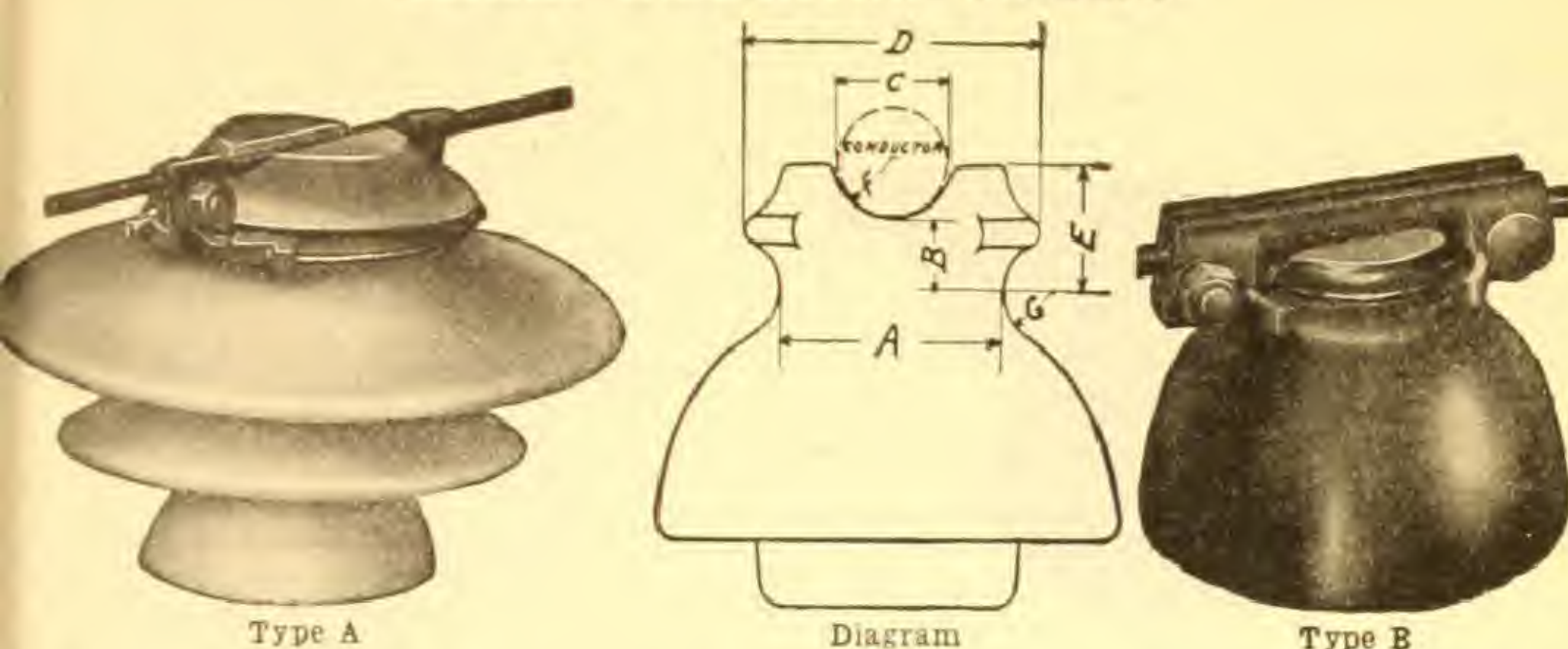
No. 91

## No. 91 SPAN WIRE INSULATORS—OLD No. 15

Trade No.	DIMENS. OVER ALL, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
	Height	Diam.	Groove	Hole			
036440	3½	2¾	½		250	315	\$485.00



# CLARK INSULATOR CLAMPS



Type A

Diagram

Type B

The Clark Insulator Clamp is used for firmly attaching conductors to porcelain or glass insulators, and is used in place of the old-fashioned tie wires.

When ordering, the following information should be supplied:

1. Name and number of insulator, or fill in dimensions on sketch.
2. Solid or stranded wire used.
3. Conductor, bare or insulated.
4. Exact outside diameter of conductor.

These clamps are supplied of either special high tensile strength composition, or of the best-grade of malleable iron protected by a heavy coating of zinc, and with steel bolts and nuts sherarized. Malleable iron clamps cannot be supplied in lots of less than 100.

Prices will vary with the market, but will approximate those shown below.

## TYPE A

The Type A clamps are especially designed for use on large insulators.

Dimension A—4 to 4½ Inches

Dimension C—DIAMETER OF CONDUCTOR

Dimen. B Inches	¼-INCH		⅜-INCH		½-INCH		⅝-INCH		¾-INCH	
	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron
1	\$1 10	\$1 00	\$1 20	\$1 10	\$1 30	\$1 20	\$1 40	\$1 24	\$1 50	\$1 30
1¼	1 20	1 10	1 30	1 20	1 40	1 24	1 50	1 28	1 60	1 32
1½	1 30	1 20	1 40	1 24	1 50	1 28	1 60	1 32	1 70	1 36
Dimension A—5 to 8 Inches										
1	1 20	1 10	1 30	1 20	1 40	1 24	1 50	1 30	1 60	1 34
1¼	1 30	1 20	1 40	1 24	1 50	1 30	1 60	1 36	1 70	1 40
1½	1 40	1 30	1 50	1 36	1 60	1 40	1 70	1 44	1 80	1 50
1¾	1 50	1 60	1 60	1 40	1 70	1 44	1 80	1 50	1 90	1 60

## TYPE B

The Type B clamp is principally designed for use with small insulators. This clamp is especially adapted for use on messenger lines.

Dimension A—1½ to 2½ Inches

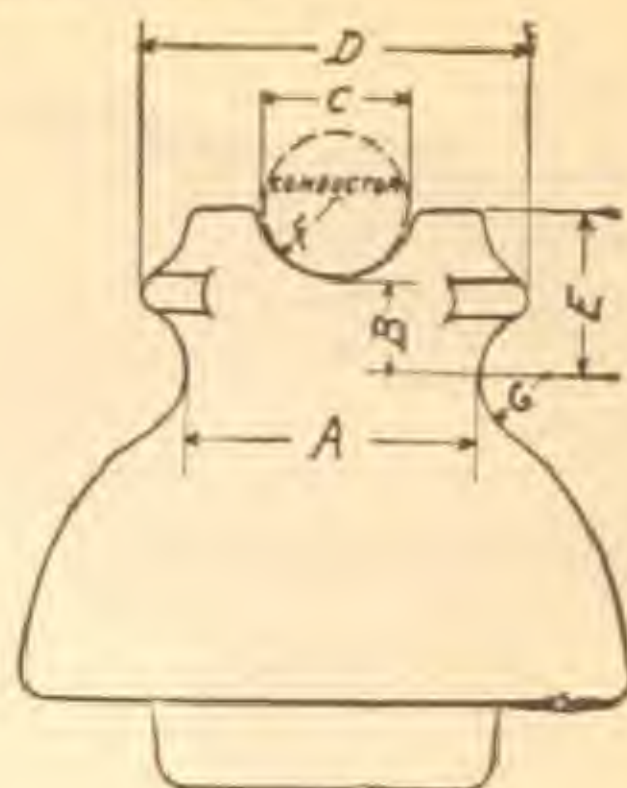
Dimen. B Inches	¼-INCH		⅜-INCH		½-INCH		⅝-INCH		¾-INCH	
	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron
¾	.80	.70	.90	.74	1 00	.76	1 10	.78	1 20	.80
1	.90	.74	1 00	.76	1 10	.78	1 20	.80	1 30	.82
1¼	1 00	.76	1 10	.78	1 20	.80	1 30	.82	1 40	.84
Dimension A—2½ to 3½ Inches										
¾	1 00	.78	1 08	.80	1 14	.82	1 20	.84	1 30	.86
1	1 04	.80	1 16	.82	1 24	.84	1 30	.86	1 40	.88
1¼	1 12	.82	1 20	.84	1 30	.86	1 40	.88	1 50	.90
Dimension A—3½ to 4½ Inches										
¾	1 10	.84	1 16	.86	1 24	.88	1 32	.90	1 40	.92
1	1 20	.86	1 26	.88	1 34	.90	1 42	.92	1 50	.94
1½	1 30	.88	1 36	.90	1 42	.92	1 52	.94	1 60	.96
Dimension A—4½ to 6 Inches										
¾	1 20	.86	1 26	.88	1 34	.90	1 44	.92	1 50	.94
1	1 30	.88	1 36	.90	1 44	.92	1 54	.94	1 60	.96
1½	1 40	.90	1 46	.92	1 54	.94	1 64	.96	1 70	.98
1¾	1 50	.92	1 56	.94	1 64	.96	1 74	.98	1 80	1 00



## CLARK INSULATOR CLAMPS



Type C



Diagram

## TYPE C

The Type C clamp is designed for use with small heavy insulators and for rigid construction. It is especially adapted for use at railroad crossings. Suitable bushings of soft copper or aluminum are provided, depending upon the conductor. It also provides, when furnished with lead bushings, to amply protect the insulation, an excellent means of holding insulated conductors in place.

Dimension A—1½ to 1¾ Inches										
Dimension C—DIAMETER OF CONDUCTOR										
Dimen. B Inches	¾ INCH		¾ INCH		¾ INCH		¾ INCH		¾ INCH	
	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron
½	\$0.70	\$0.66	\$0.80	\$0.70	\$0.90	\$0.74	\$1.00	\$0.76	\$1.10	\$0.78
¾	.80	.70	.90	.74	1.00	.76	1.10	.78	1.20	.80
1	.90	.74	1.00	.76	1.10	.78	1.20	.80	1.30	.82
Dimension A—2 to 2¼ Inches										
Dimen. B Inches	¾ INCH		1 INCH		1¼ INCHES		1½ INCHES		1¾ INCHES	
	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron
¾	1.20	.80	1.30	.82	1.40	.84	1.50	.86	1.60	.88
1	1.30	.82	1.40	.84	1.50	.86	1.60	.88	1.70	.90
1¼	1.40	.84	1.50	.86	1.60	.88	1.70	.90	1.80	.92
Dimension A—3 to 3¼ Inches										
Dimen. B Inches	¾ INCH		1 INCH		1¼ INCHES		1½ INCHES		1¾ INCHES	
	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron
¾	1.44	.86	1.54	.88	1.64	.92	1.74	.94	1.84	.96
1	1.54	.88	1.64	.90	1.74	.94	1.84	.96	1.94	1.04
1¼	1.64	.92	1.74	.96	1.84	.98	1.94	1.04	2.04	1.08
1½	1.74	1.00	1.84	1.04	1.94	1.08	2.04	1.10	2.14	1.14
Dimension A—4 to 4¼ Inches										
Dimen. B Inches	¾ INCH		1 INCH		1¼ INCHES		1½ INCHES		1¾ INCHES	
	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron
¾	1.60	.94	1.70	.96	1.80	.98	1.90	1.00	2.00	1.06
1	1.70	.96	1.80	1.00	1.90	1.04	2.00	1.06	2.10	1.12
1¼	1.80	1.02	1.90	1.06	2.00	1.08	2.10	1.12	2.20	1.16
1½	1.90	1.08	2.00	1.12	2.10	1.16	2.20	1.20	2.30	1.26
Dimension A—5 to 5¼ Inches										
Dimen. B Inches	¾ INCH		1 INCH		1¼ INCHES		1½ INCHES		1¾ INCHES	
	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron
¾	1.80	1.00	1.90	1.02	2.00	1.04	2.10	1.06	2.20	1.12
1	1.90	1.08	2.00	1.12	2.10	1.16	2.20	1.20	2.30	1.26
1¼	2.00	1.18	2.10	1.20	2.20	1.26	2.30	1.30	2.40	1.36
1½	2.10	1.28	2.20	1.30	2.30	1.36	2.40	1.40	2.50	1.46



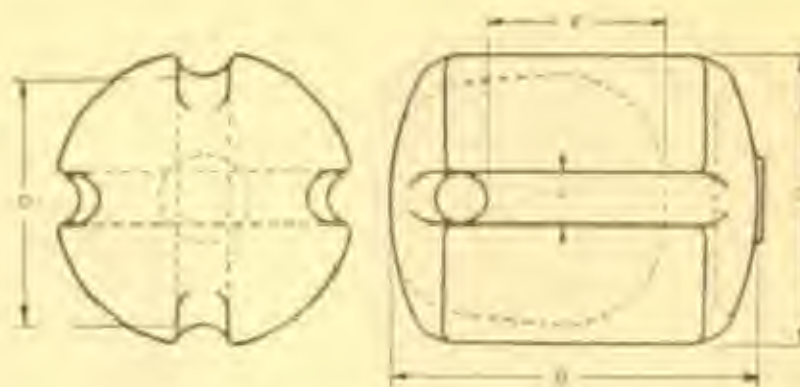
# THOMAS GUY STRAIN INSULATORS



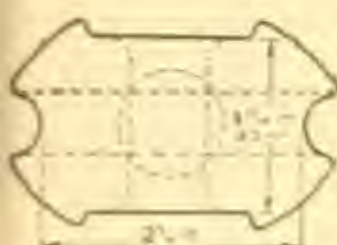
Nos. 361 and 362



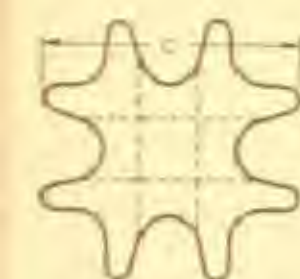
Nos. 365 and 366



Nos. 500-506



No. 508



No. 510-512

## DIMENSIONS

Mfrs. No.	DIMENSIONS, INCHES				
	A	B	C	D	E
361	$8\frac{1}{16}$	3	$2\frac{5}{8}$	$2\frac{1}{8}$	2
362	$7\frac{7}{8}$	$4\frac{7}{16}$	$3\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{7}{16}$
365	$1\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{3}{8}$	$1\frac{1}{2}$	2
366	$5\frac{5}{8}$	$3\frac{1}{4}$	$2\frac{5}{8}$	$1\frac{7}{8}$	$2\frac{5}{8}$
500	$3\frac{3}{8}$	$2\frac{1}{8}$	$1\frac{9}{16}$	1	$5\frac{5}{8}$
502	$1\frac{1}{2}$	$3\frac{1}{2}$	$2\frac{1}{2}$	2	$1\frac{1}{8}$
504	$1\frac{1}{2}$	$3\frac{5}{8}$	$2\frac{7}{8}$	$2\frac{3}{8}$	$1\frac{3}{4}$
506	$3\frac{3}{4}$	$5\frac{1}{2}$	$3\frac{3}{8}$	$2\frac{3}{16}$	$2\frac{3}{4}$
508	$9\frac{1}{16}$	$3\frac{3}{4}$	$3\frac{3}{16}$	$2\frac{5}{8}$	$3\frac{3}{4}$
510	$1\frac{1}{2}$	$3\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{5}{8}$	1
511	$5\frac{5}{8}$	$5\frac{3}{8}$	$3\frac{1}{4}$	$2\frac{3}{8}$	$2\frac{1}{8}$
512	$3\frac{3}{4}$	$6\frac{3}{4}$	$3\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{8}$

NOTE.—Cable of same diameter as "A" may be used as all holes run full.

## TEST DATA AND GENERAL SPECIFICATIONS

Trade No.	Mfrs. No.	FLASHOVER VOLTAGE		Ultimate Crushing Strength Pounds	No. per Barrel	Wt., Lbs. per 100	Price per 100
		Dry	Wet				
06563	361	14000	7000	19000	500	78	On Application
06564	362	17000	10000	25000	182	215	
06565	365	12000	5000	6500	625	70	
06566	366	15000	7000	15000	350	120	
06567	500	16000	9000	4000	1700	25	
06568	502	23000	14000	11000	400	120	
06569	504	25000	15000	19000	250	175	
06570	506	31000	20000	45000	150	255	
06571	508	19000	8000	19000	300	165	
06572	510	29000	12000	10000	200	160	
06573	511	39000	14000	15000	100	325	
06574	512	46000	17000	20000	70	450	

The ultimate crushing strength is that load at which the porcelain fails completely, allowing the wires to touch. The porcelain will begin to crack at about 60 per cent of that value, excepting in the case of the Nos. 510-12 series. Insulators Nos. 510, 511 and 512 are made by the wet process.



## WHITE STRAIN INSULATORS



No. 506



No. 504



No. 502



No. 500

## PORCELAIN STRAIN INSULATORS

Because of the protected end coverings and the fact that the wires pass through, instead of around, this insulator, it is a proven impossibility for the ends of the span or guy wires to come in contact with each other, thus positively eliminating the chance of leakage of current.

The Improved Porcelain Strain Insulator is not subject to expansion or contraction in extreme climatic changes, as is the case with other strain insulators, in which the metal expands in greater proportion than the insulation, causing the insulation to crack and in time rendering the insulator useless.



No. 508



No. 604



No. 602



No. 601

## No. 506

No. 506 is a span or guy wire insulator.

Trade No.	Dimensions Inches	Weight Ounces	Hole Inches	Carton	Std. Pkg.	Price per 100
076121	$3\frac{3}{8} \times 5\frac{1}{2}$	44	$\frac{3}{4}$	25	150	\$100.00

Test voltage, 21000; line voltage, 8000; tensile strength, 20000.

## No. 504

No. 504 is the regular street railway span wire insulator. The size has been adopted as standard by a large number of companies.

076120	$2\frac{1}{8} \times 3\frac{1}{2}$	22	$\frac{1}{2}$	50	250	52.50
--------	------------------------------------	----	---------------	----	-----	-------

Test voltage, 24000; line voltage, 7000; tensile strength, 15000.

## No. 502

This size is also in general use on street railway span wire construction, and while not quite as heavy as the No. 504 it will do the work satisfactorily.

076119	$2\frac{3}{8} \times 3$	14	$\frac{3}{8}$	100	400	42.00
--------	-------------------------	----	---------------	-----	-----	-------

Test voltage, 20000; line voltage, 5000; tensile strength, 12000.

## No. 500

This is the smallest size Improved Porcelain Strain Insulator made. The use of it will solve the problem of dead-ending telephone wires at low cost.

076118	$1\frac{1}{2} \times 2\frac{1}{4}$	4	$\frac{5}{16}$	200	1000	21.00
--------	------------------------------------	---	----------------	-----	------	-------

No. 508 is a pole band insulator.

## No. 508

26292	$3\frac{1}{4} \times 4\frac{1}{2}$	26	$\frac{1}{2}$	50	200	53.50
-------	------------------------------------	----	---------------	----	-----	-------

Test voltage, 24000; line voltage, 8000; tensile strength, 15000.

## No. 606

No. 606 is a heavy guy wire insulator.

26293	$3\frac{1}{4} \times 5$	48	$\frac{7}{8}$	25	150	110.00
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## No. 604

No. 604 is a span or guy wire insulator.

26294	$2\frac{3}{4} \times 3\frac{3}{8}$	24	$\frac{1}{2}$	50	250	57.50
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## No. 602

No. 602 is a span or guy wire insulator.

26295	$2\frac{1}{2} \times 2\frac{7}{8}$	16	$\frac{3}{8}$	100	400	44.00
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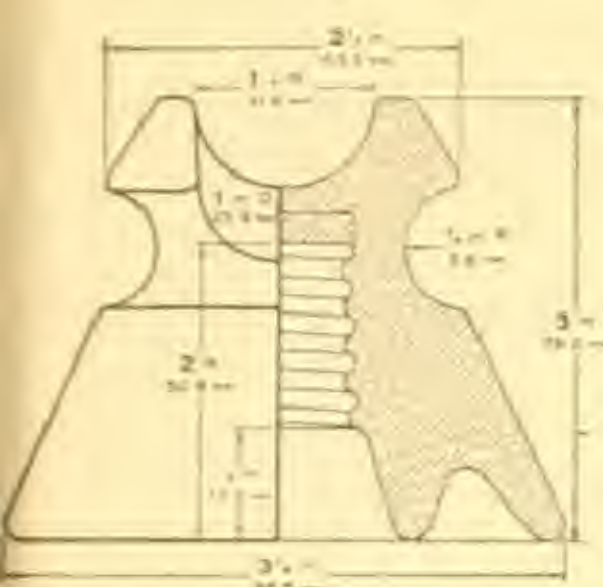
## No. 601

No. 601 is a telephone wire insulator.

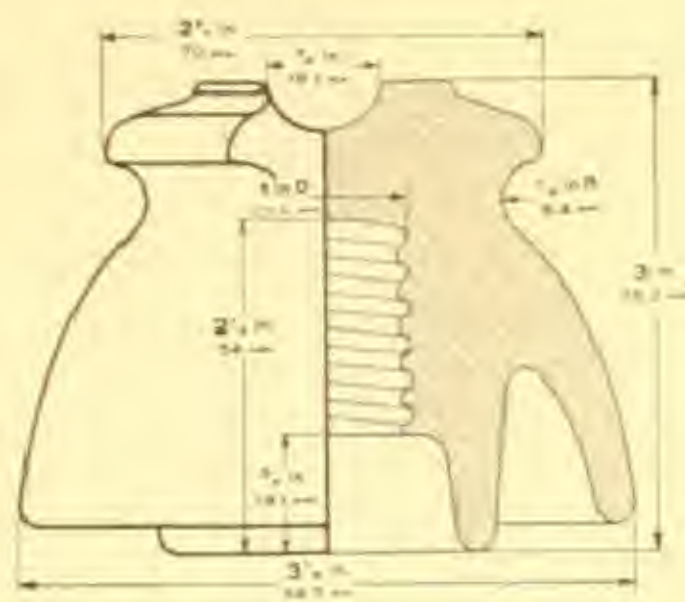
26296	$1\frac{3}{4} \times 2\frac{1}{4}$	7	$\frac{5}{16}$	200	1000	22.50
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# THOMAS INSULATORS



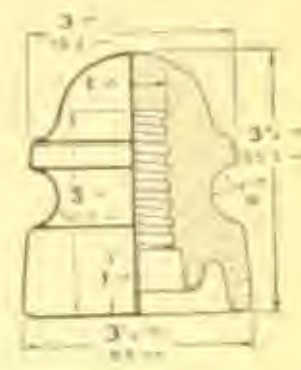
No. 1010



No. 1009



No. 1111



No. 1101



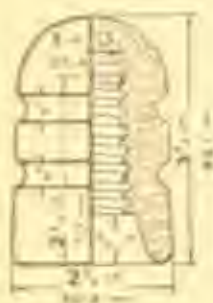
No. 1094

## PIN TYPE INSULATORS

Trade No	Mfrs No.	Nominal Rating	FLASHOVER VOLTAGE		Height In.	Diam. In.	Wt., Lbs. per 100	Price per 100
			Dry	Wet				
042112	1010	6600	54000	24000	3	3 7/8	135	On
042188	1009	6600	55000	23000	3	3 7/8	175	Application

## TELEPHONE, TELEGRAPH AND ELECTRIC LIGHT SERVICE INSULATORS

Trade No	Mfrs No.	Nominal Rating	Height In.	Diam. In.	Wt., Lbs. per 100	Price per 100
137445	1111	5000	3 3/8	3 1/4	114	On Application
137446	1101	5000	3 3/4	3 1/4	144	
137447	1094	5000	4	3 1/2	180	
042193	1011	5000	3 5/8	2 3/8	80	
042195	1012	5000	3 1/4	2 3/8	67	



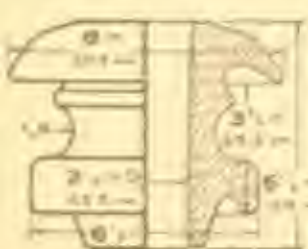
No. 1011



No. 1012

## PIN STRAIN INSULATORS

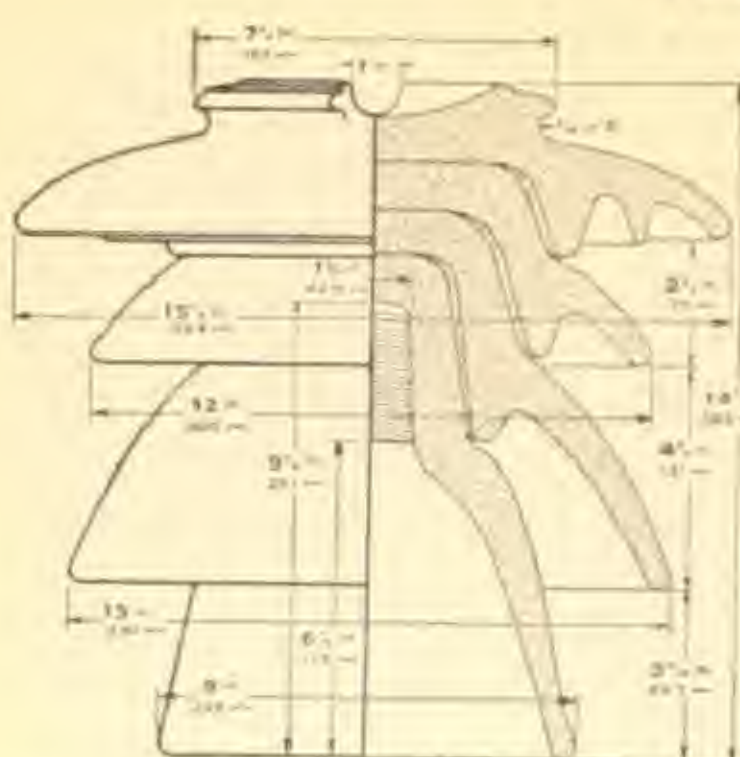
Trade No	Mfrs No.	Nominal Rating	FLASHOVER VOLTAGE		Height In.	Diam. In.	Wt., Lbs. per 100	Price per 100
			Dry	Wet				
042181	7015	15000	62000	33000	7 1/2	7	1060	On Application
042183	7019	10000	55000	26000	6 1/2	6	890	
137443	7023	13200	63000	31000	6 1/2	8	1330	
137448	7026	17500	58000	33000	7 1/2	7 1/4	1100	
137444	7028	6600	33000	17000	4	4 1/2	220	
137449	7030	10000	52000	24000	6	5 3/4	800	
137450	7031	10000	52000	24000	6	5 3/4	800	



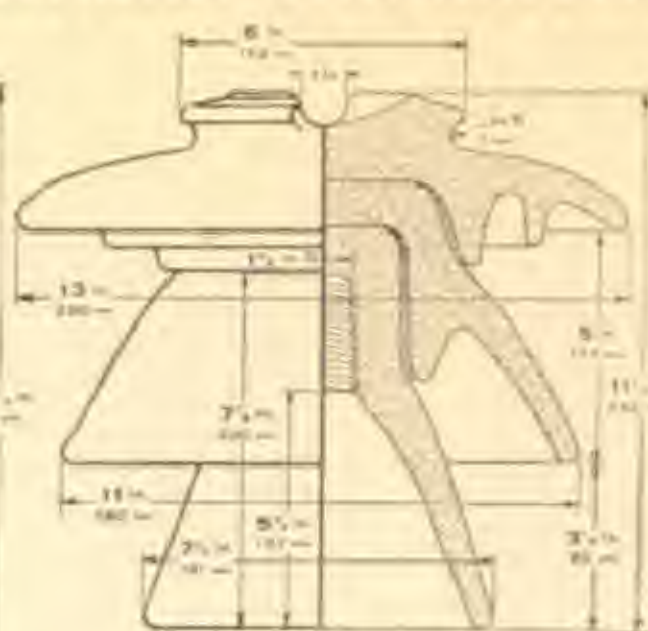
No. 7015



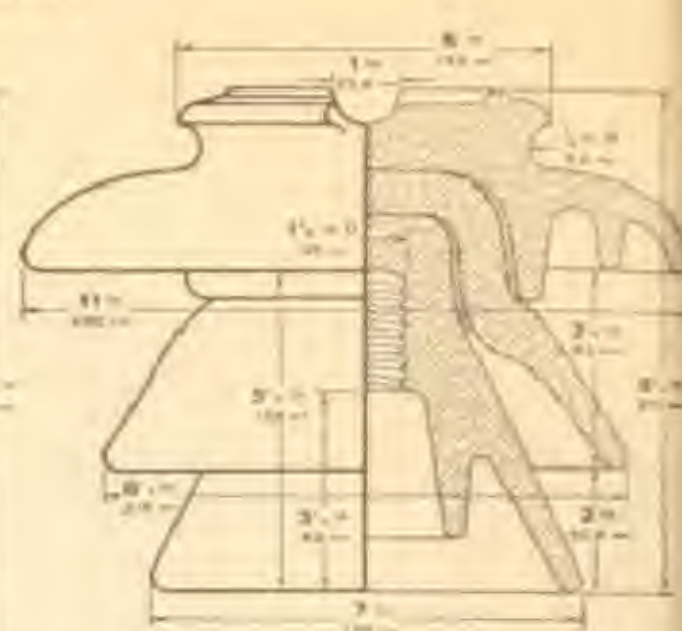
## THOMAS INSULATORS



No. 4035

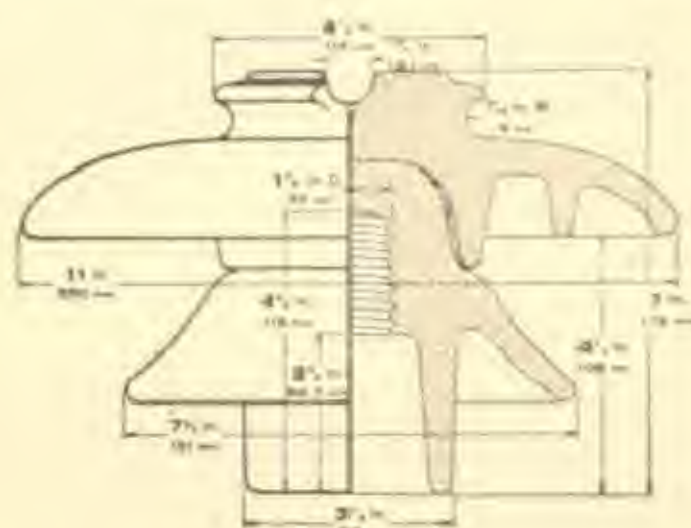


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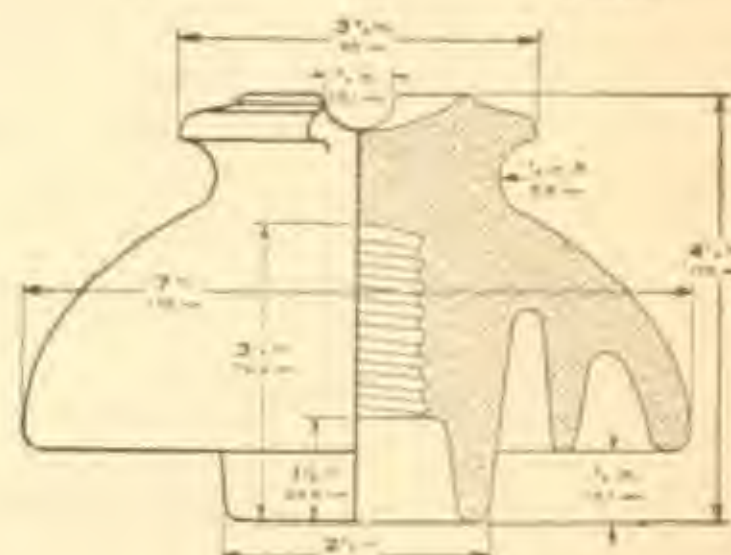


No. 3055

Trade No.	Mfrs. No.	Nominal Rating	FLASHOVER VOLTAGE Dry	Wet	Height Inches	Diameter Inches	Wt., Lbs. per 100	Price per 100
137421	4035	80000	225000	160000	14 1/2	15 1/2	7250	On Appli- cation
137410	4034	70000	192000	137000	12	14	5335	
137411	3060	66000	180000	125000	11 1/2	13	4330	
137412	4033	60000	171000	120000	10 1/2	12	3835	
137425	3057	55000	165000	115000	10	12	3400	
137423	3055	50000	155000	102000	8 1/4	11	2975	
137424	3059	45000	145000	94000	7 3/8	11	2585	
137426	3058	35000	120000	80000	7	9	1635	

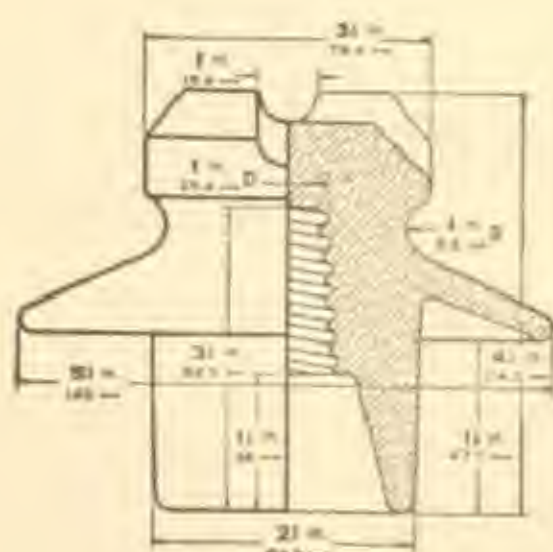


No. 2124

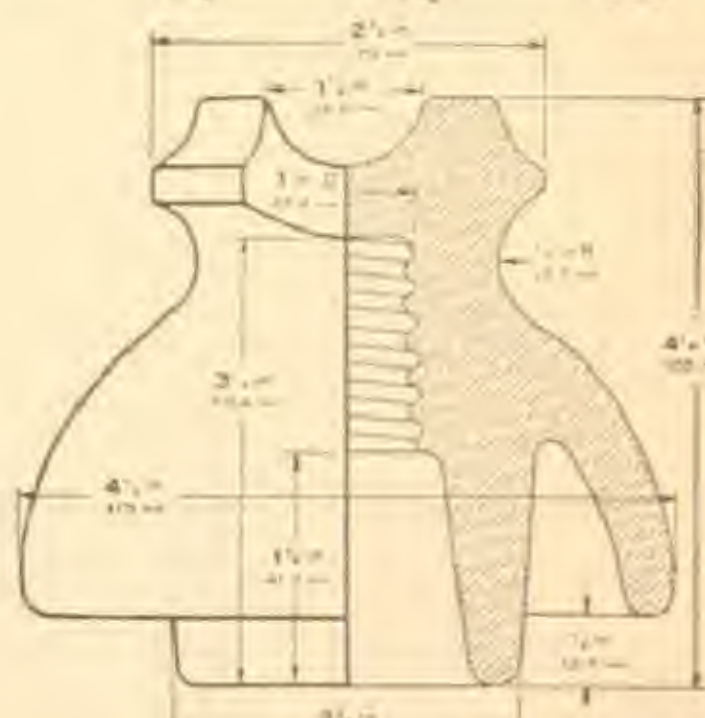


Nos. 1157-1158

Trade No.	Mfrs. No.	Nominal Rating	FLASHOVER VOLTAGE Dry	Wet	Height Inches	Diameter Inches	Wt., Lbs. per 100	Price per 100
137413	2124	40000	140000	88000	7	11	1700	On Appli- cation
137428	2118	35000	112000	65000	6	9	1175	
137427	2117	27000	89000	54000	5 1/4	7 1/2	800	
137429	2120	23000	87000	52000	4 3/8	6 1/2	635	
137414	1157	23000	88000	52000	4 1/2	7	*600	
137415	1158	23000	88000	52000	4 1/2	7	†600	
137416	1151	17000	74000	45000	4	5 1/2	*385	
137417	1152	17000	74000	45000	4	5 1/2	†385	
137418	1153	13000	68000	40000	3 1/4	4 3/4	355	



No. 1139



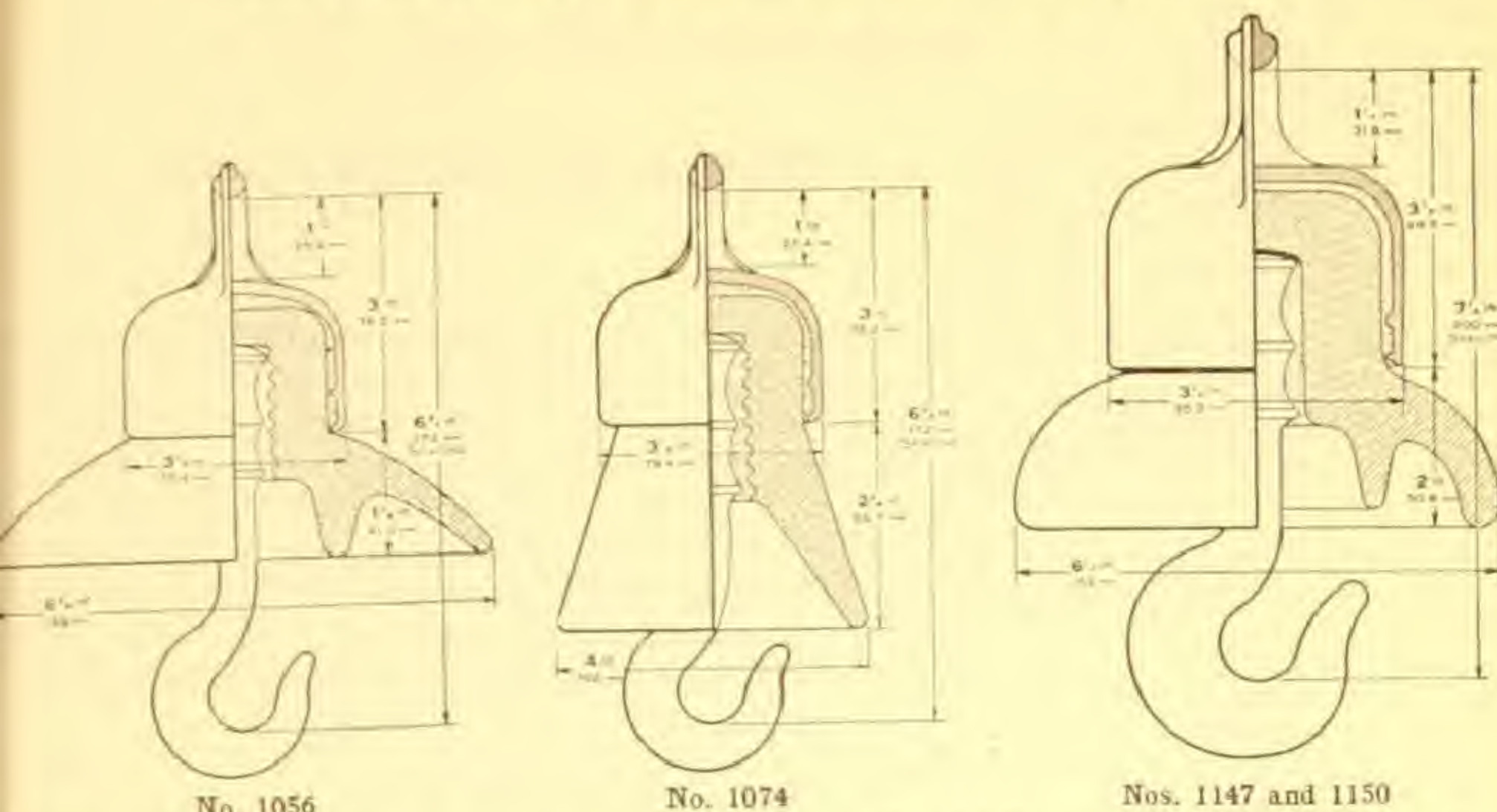
Nos. 1107 and 1076

Trade No.	Mfrs. No.	Nominal Rating	FLASHOVER VOLTAGE Dry	Wet	Height Inches	Diameter Inches	Wt., Lbs. per 100	Price per 100
137430	1139	15000	73000	41000	4 1/2	5 3/4	350	On Appli- cation
137441	1107	11000	62000	29000	4 1/8	4 1/2	285	
137419	1076	7500	53000	22000	3 1/2	4 1/2	165	

\*One-inch pin hole. †1 3/8-inch pin hole.



# THOMAS SUSPENSION INSULATORS



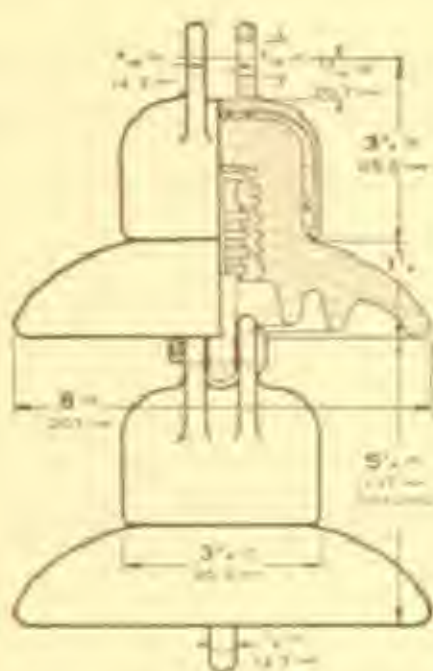
No. 1056

No. 1074

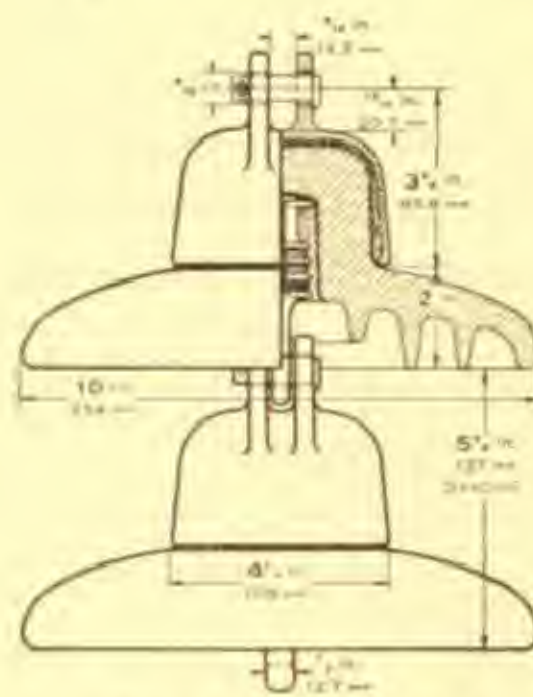
Nos. 1147 and 1150

No. 1150 insulator is of the same general design as No. 1147 except that the clevis and pin type of connection is used and the unit spacing is only  $5\frac{3}{4}$  inches.

Grade No.	Mfrs. No.	FLASHOVER VOLTAGE		Ultimate Mechanical Strength Pounds	Leakage Distance Inches	Wet Arcing Distance Inches	Wt., Lbs. per 100	Price per 100
5009	1056	70000	34000	3800	7	$2\frac{1}{2}$	575	On Application
5008	1074	51000	19000	3800	5	1	435	
5015	1147	65000	30000	9000	$6\frac{3}{4}$	$1\frac{5}{8}$	1100	
5016	1150	65000	30000	9000	$6\frac{3}{4}$	$1\frac{5}{8}$	810	



No. 1145



Nos. 1149 and 1165

No. 1165 is of the same design as No. 1149 excepting that it is rated for extra heavy mechanical loads, is dielectrically stronger than the No. 1149 and has a unit spacing of  $5\frac{3}{4}$  inches.

5014	1145	68000	36000	9000	9	$2\frac{7}{8}$	1000	On
5012	1149	84000	48000	9000	$12\frac{1}{2}$	$3\frac{7}{8}$	1440	Appli-
5017	1165	82000	43000	15000	$11\frac{1}{2}$	$3\frac{3}{4}$	1680	cation

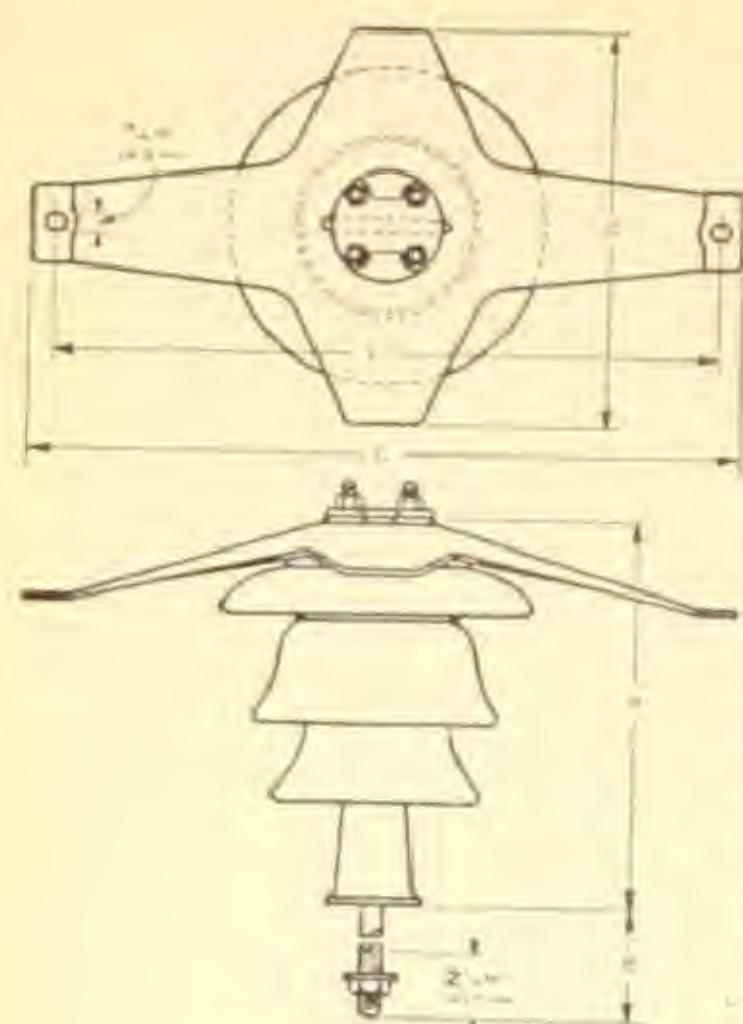
## STRING ASSEMBLY FLASHOVER VALUES

Units per String	No. 1056		No. 1074		No. 1145		No. 1147		No. 1149		No. 1165	
	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet
1	70	34	51	19	68	36	65	30	84	48	82	43
2	135	68	98	32	135	69	120	54	144	84	145	80
3	181	102	144	43	183	90	170	77	194	118	190	116
4									242	154	240	152
5									290	188	300	195
6									336	224	350	240
7									380	260		270

String flashover values for No. 1150 insulator approximately the same as for No. 1147.



## THOMAS PROTECTORS AND INSULATORS



Nos. 13004-13009

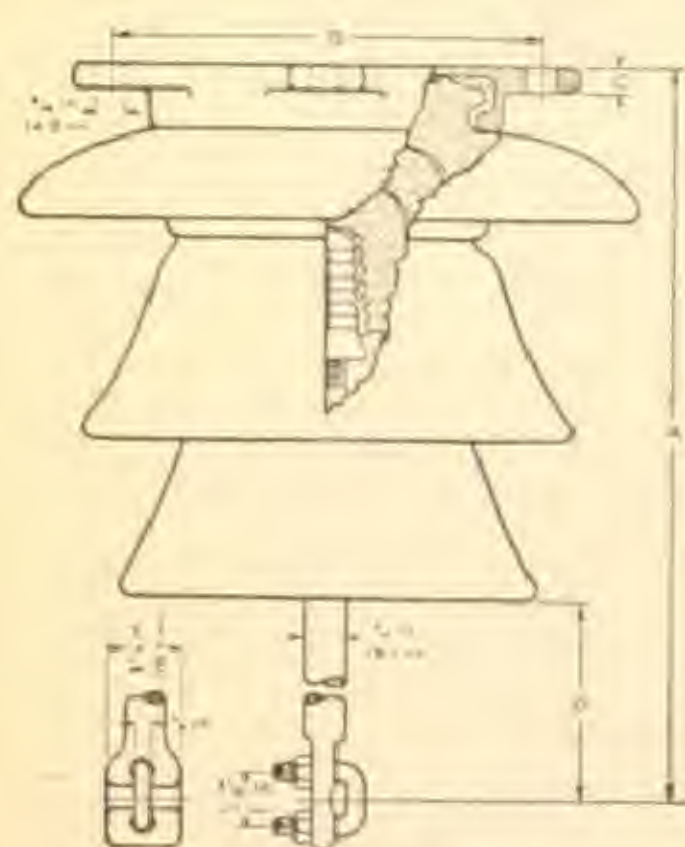
## THOMAS LINE WIRE PROTECTORS

Thomas Line Wire Protectors are installed at the end of spans which cross over other power lines, telephone, telegraph or railway lines, public highways, etc. They are so designed as to protect the line wire during flashover of the insulator and thus prevent the cable from burning off and falling. The Thomas Protector meets the specifications of National Electric Light Association, The American Electric Railway Association and the American T. & T. Co. Detail prints and full information will be furnished upon request.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES					Nominal Rating Volts	Wt., Lbs. per 100	Price per 100
		A	B	C	D	E			
206605	13004	7 $\frac{1}{8}$		14 $\frac{1}{2}$	9	13 $\frac{5}{8}$	14000	2190	
206606	13005	9 $\frac{3}{8}$		18 $\frac{1}{2}$	11 $\frac{1}{2}$	17 $\frac{5}{8}$	27000	2665	
206607	13006	12 $\frac{1}{8}$	To	23	13	21 $\frac{5}{8}$	35000	4100	On
206608	13007	14 $\frac{1}{8}$	Suit	27	15	25 $\frac{5}{8}$	47000	6000	Appli-
206609	13008	16 $\frac{3}{8}$	Cross-arm	31	18	29 $\frac{5}{8}$	60000	10000	cation
206610	13009	19 $\frac{5}{8}$		32	19	30 $\frac{5}{8}$	70000	12000	

Each design (manufacturer's number) can be furnished in any of three types: Type 1, clamps cable of from .20 to .34 inch; Type 2, clamps cable of from .34 to .46 inch; Type 3, clamps cable of from .46 to .60 inch.

Please specify type when ordering.



Nos. 13010-13013

## THOMAS CEILING INSULATORS

## For Power Plant and Sub-station Construction

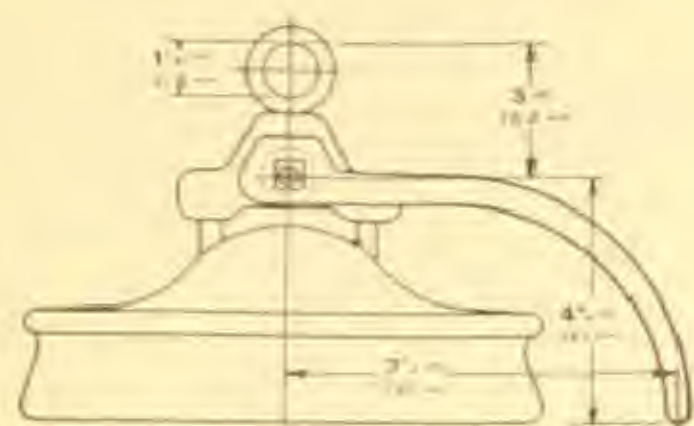
The Thomas Ceiling Insulator was primarily designed to support conductors around the power plant and sub-stations. It has long since been accepted by engineers the world over as a very efficient and inexpensive device for this service.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES				Nominal Rating Volts	Wt., Lbs. per 100	Price per 100
		A	B	C	D			
206611	13010	8 $\frac{1}{8}$	6 $\frac{1}{2}$	$\frac{1}{2}$	3 $\frac{1}{4}$	27000	1250	On
206612	13011	12 $\frac{1}{8}$	8 $\frac{3}{8}$	$\frac{1}{2}$	4 $\frac{5}{8}$	45000	3265	Appli-
206613	13012	17 $\frac{1}{8}$	8 $\frac{3}{8}$	$\frac{1}{2}$	6 $\frac{7}{8}$	55000	3850	cation
206614	13013	21 $\frac{1}{2}$	11 $\frac{3}{8}$	$\frac{5}{8}$	8 $\frac{3}{4}$	70000	9250	

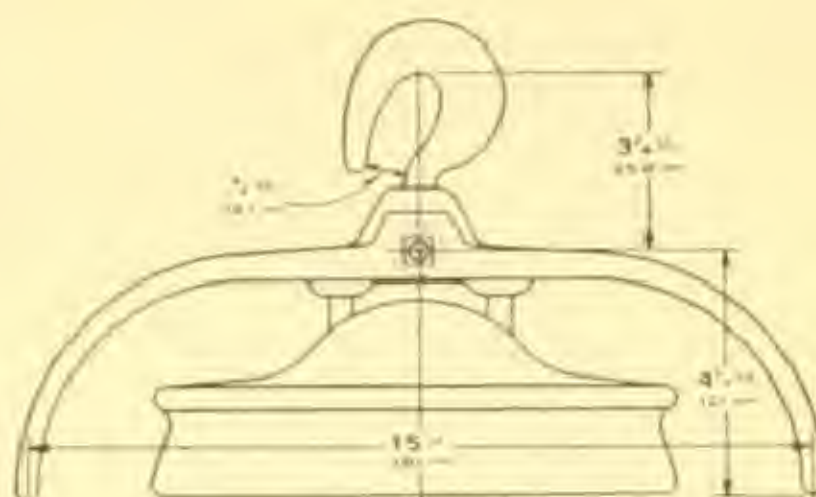


## THOMAS LINK-TYPE HEWLETT INSULATORS

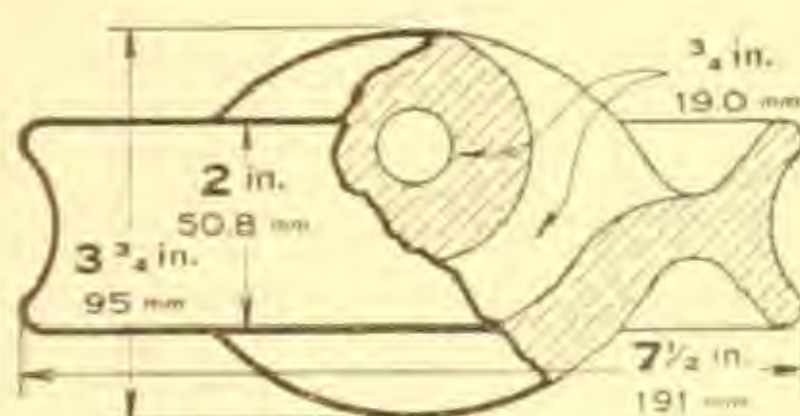
### DETACHABLE ARCING HORNS



No. 5483 Horn  
For Strain Strings



No. 5482 Horn  
For Suspension Strings

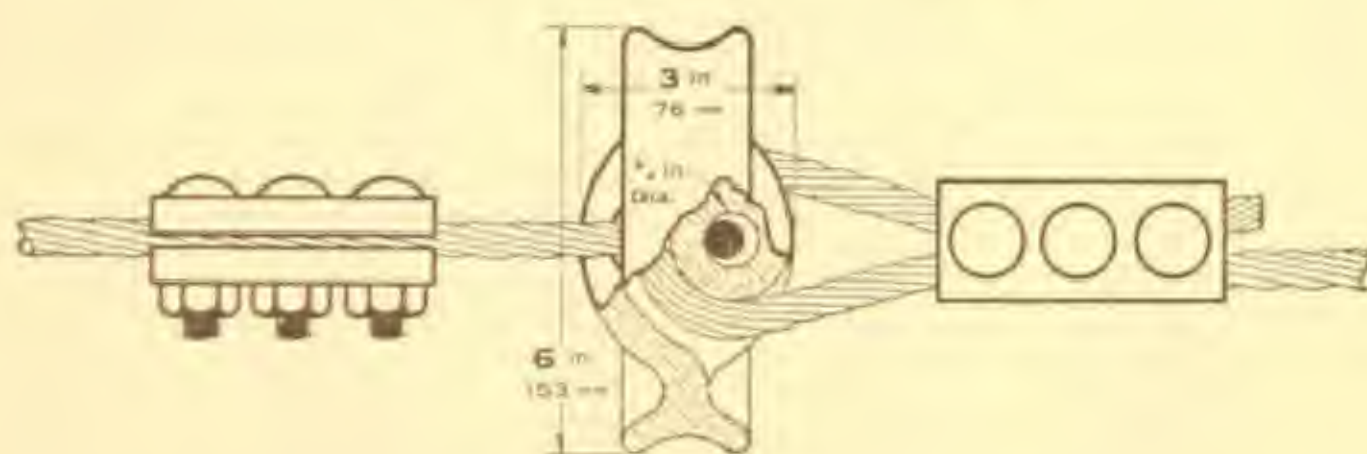


No. 1162 Insulator

### 7 1/2-INCH DISC INSULATORS

The 7 1/2-inch Thomas Link-Type Hewlett Disc Insulator No. 1162, is of the same sturdy design as the No. 1054 unit or 10-inch disc, except that it is of the fishtail type. This unit may be assembled in strings by using the same line of fittings as illustrated on the opposite page. In ordering assembled strings of No. 1162 insulators, the following numbers may be used keeping in mind that Type No. indicates the number of units per string. Assembled strings of No. 1162 units with clevis at top and connector at bottom, refer to Mfrs. No. 11010; with suspension eye at top and connector at bottom, refer to Mfrs. No. 11011; with suspension hook at top and connector at bottom, refer to Mfrs. No. 11012. This size of unit is recommended for use on moderate voltage lines and is especially efficient for "dead-ending."

### 6-INCH DISC INSULATORS



No. 1163 Insulator

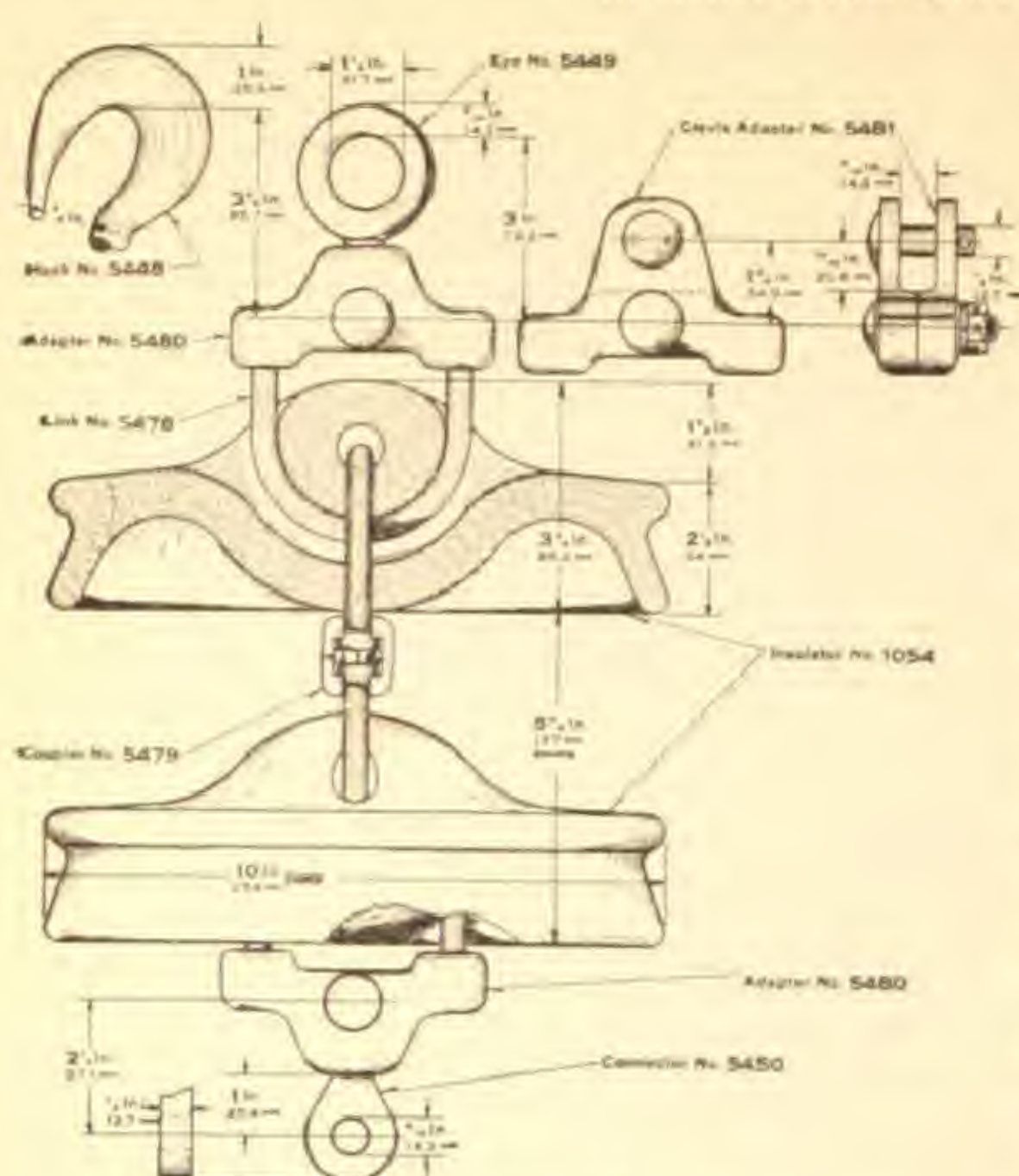
The above illustrates the most popular function of the 6-inch Hewlett disc. It is commonly used on important "guys" electric railway span-work, etc., but may also be used in series assembly for "dead-ending."

Prices Quoted upon Application



## THOMAS LINK TYPE HEWLETT INSULATORS

### 10-INCH DISC INSULATORS



Detailed Assembly of Two Units  
Showing All Parts

The accompanying sketch merely illustrates the adaptability of the component parts of the Thomas Link-Type unit and is suggestive of the possible arrangements obtainable.

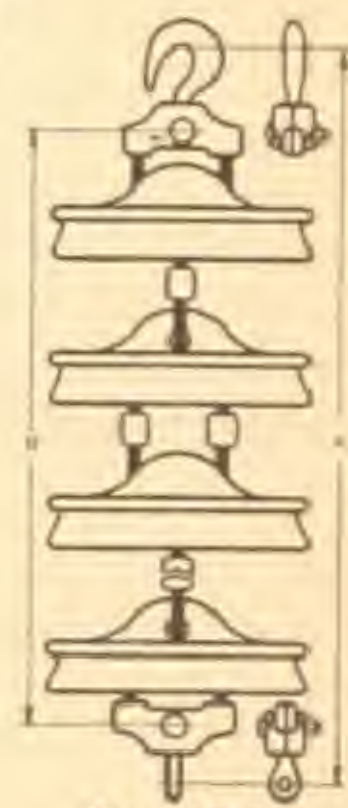
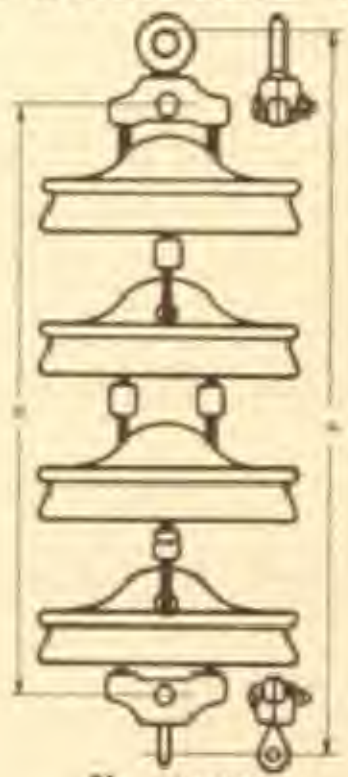
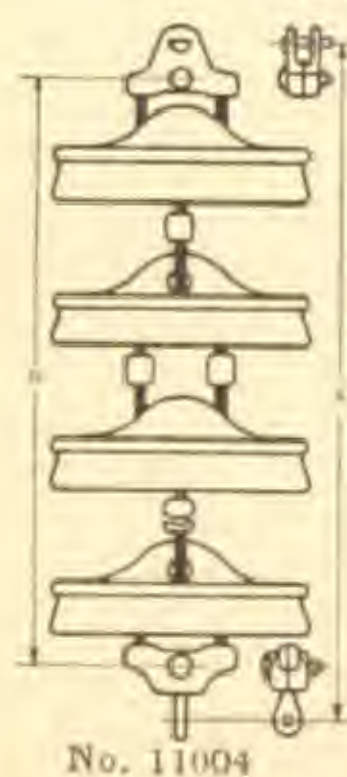
This insulator is a "free" porcelain unit. That is, no cement, alloy or composition is needed to complete the assembly. The porcelain being in compression, is at its best, thus developing the maximum strength. There is no side pull, nor are there any lengthy porcelain walls in tension. The connecting links are of soft copper and readily shape themselves in the cable-way of the unit and concentration of the physical stresses at any particular point is thus avoided. Freedom of movement between porcelain and the metal fittings entirely eliminates the possibility of strains being set up in the porcelain due to expansion and contraction of parts due to temperature changes. This avoids cracking of the insulating section.

In many cases this insulator has been in constant use for twelve years or more. Recent investigation in such instances reveals that the continual operation during that time has in no way impaired the value of the insulating unit.

#### General Data

Unit spacing, inches	5 3/8
Leakage distance (unit), inches	12
Wet arcing distance (unit), inches	3
Ultimate mechanical strength, pounds	8000

#### WEIGHTS, TEST DATA AND DIMENSIONS



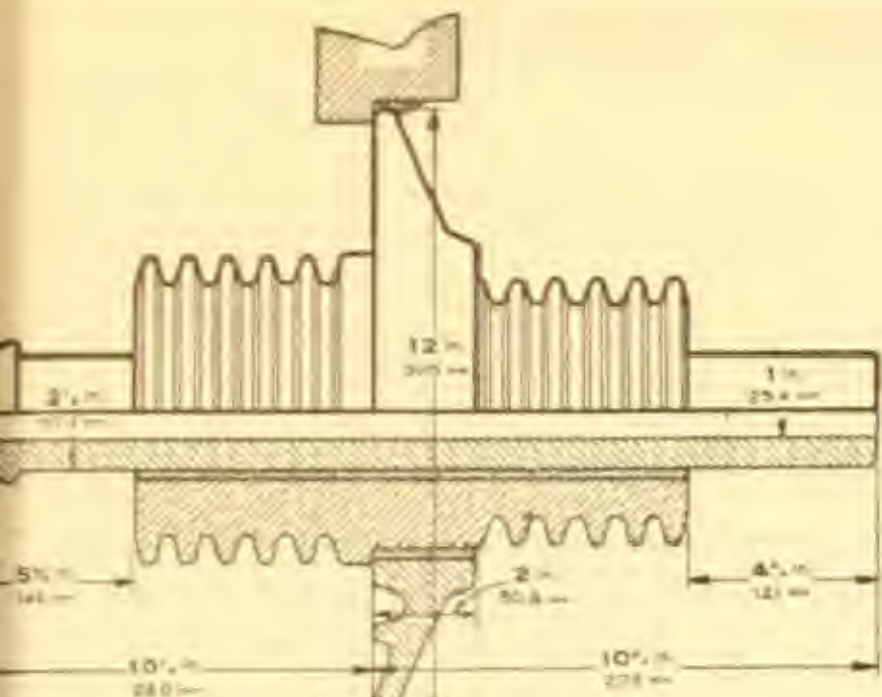
Type No.	FLASHOVER VOLTAGES		A INCHES			B INCHES	Wt., Lbs. per 100
	Dry	Wet	11004	11005	11006		
1	75000	50000	9	10 5/8	11	5 3/8	
2	145000	100000	14 3/8	16	16 3/8	10 3/4	
3	205000	145000	19 3/4	21 3/8	21 3/4	16 1/8	58
4	260000	185000	25 1/8	26 3/4	27 1/8	21 1/2	70
5	305000	225000	30 1/2	32 1/8	32 1/2	26 7/8	86
6	350000	260000	35 7/8	37 1/2	37 7/8	32 1/4	102
7	390000	290000	41 1/4	42 7/8	43 1/4	37 5/8	118
8	430000	320000	46 5/8	48 1/4	48 5/8	43	134
9	470000	350000	52	53 5/8	54	48 3/8	150
10	510000	380000	57 3/8	59	59 3/8	53 3/4	170

Type No. indicates number of units in string.

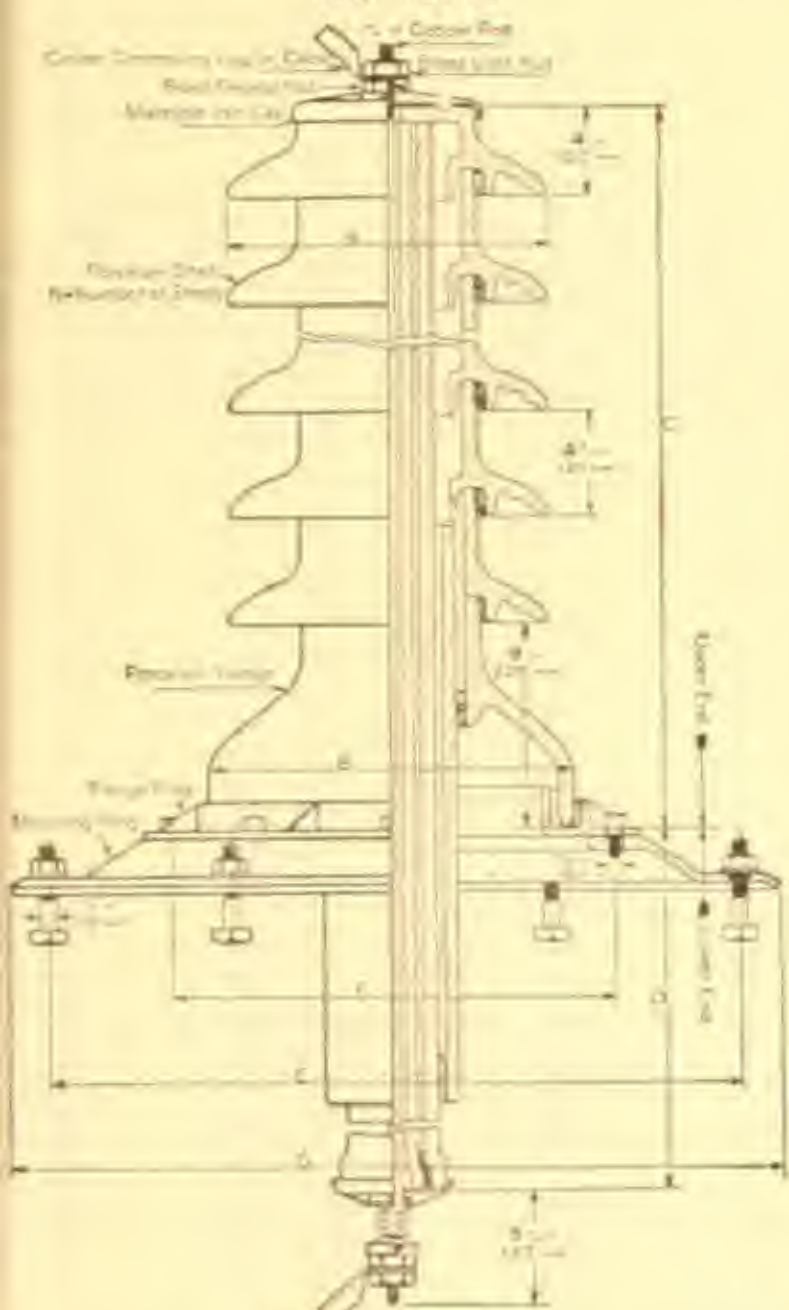
Prices Quoted upon Application



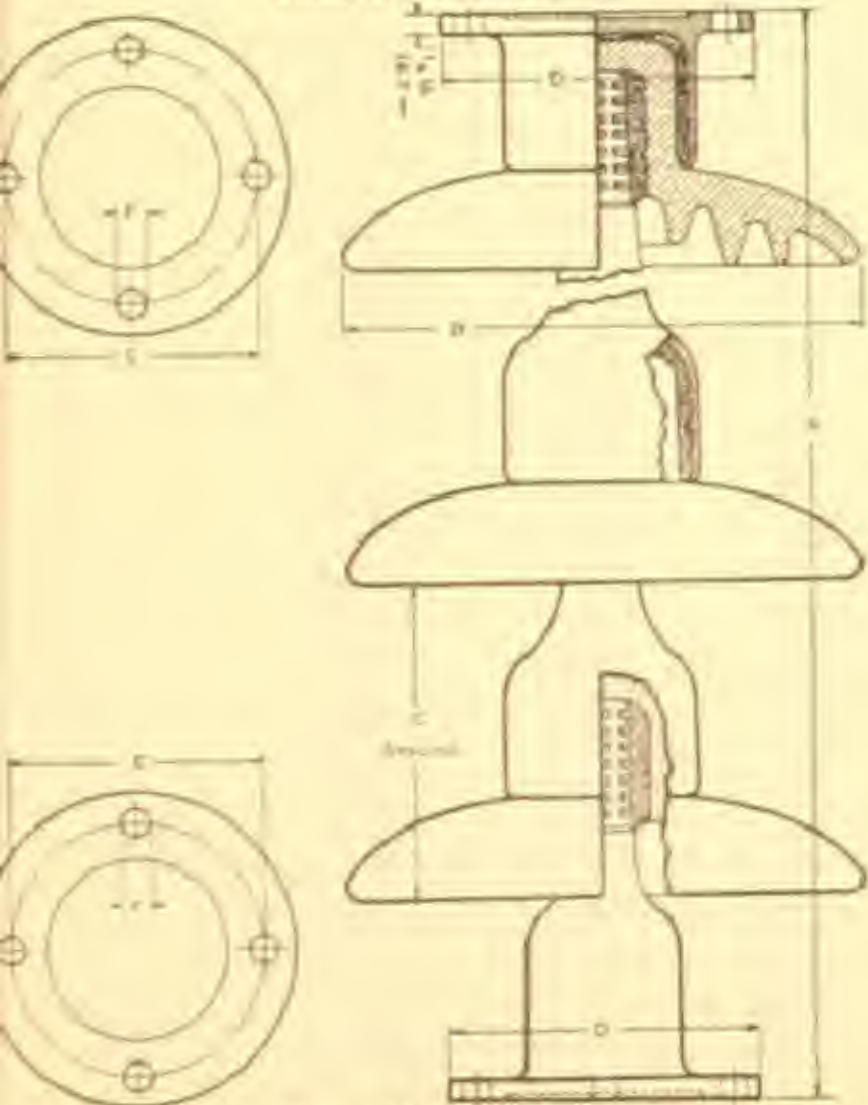
THOMAS BUSHINGS AND  
POST INSULATORS



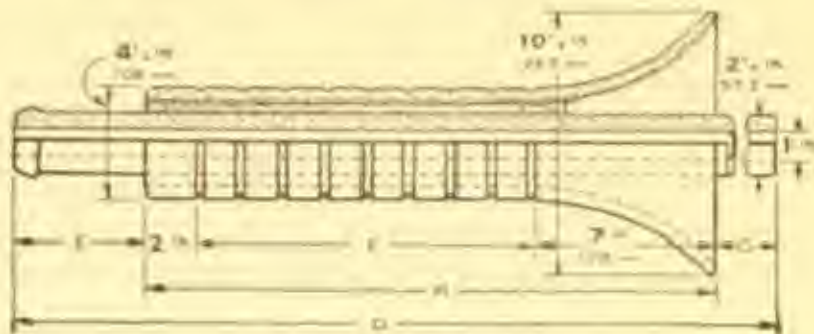
No. 12501



No. 8013-8019



Nos. 7130-7138



Nos. 8215-8218

## WALL BUSHINGS

Trade No.	Mfrs. No.	Nominal Rating	Diam. Outside Inches	Length Inches	Ship. Wt. Lbs.	Price Each
206625	12501	33000	12	21	46	
206626	12502	44000	14	25	60	
206627	12503	60000	16	33	102	
206628	12504	70000	18	37	135	On
206629	12505	80000	22	37	150	Appli-
048201	8209	13200	6 $\frac{1}{2}$	17	33	cation
031387	8215	15000	10 $\frac{1}{2}$	21	39	
031388	8216	15000	10 $\frac{1}{2}$	25	46	
031289	8217	22000	10 $\frac{1}{2}$	27	44	
031390	8218	22000	10 $\frac{1}{2}$	31	48	

These bushings have a one-inch bore for conductor entrance.

## ROOF BUSHINGS

Trade No.	Mfrs. No.	Nominal Voltage	DIMENS. INCHES			Ship. Wt., Lbs.	Price Each
			A	C	D		
206630	13003	7500	12 $\frac{5}{8}$	9 $\frac{3}{4}$	30		
206631	13001	15000	15 $\frac{5}{8}$	11	39		
031381	8013	110000	16 $\frac{1}{2}$	45 $\frac{1}{8}$	51	600	On Application
031382	8014	88000	16 $\frac{1}{2}$	40 $\frac{3}{8}$	41 $\frac{3}{4}$	550	
031383	8016	66000	14	32	30 $\frac{5}{8}$	325	
031384	8017	44000	14	27 $\frac{1}{4}$	17 $\frac{3}{8}$	237	
013385	8018	33000	12	17 $\frac{3}{4}$	15 $\frac{3}{4}$	145	
031386	8019	22000	12	13	12 $\frac{1}{2}$	112	

Prices and weight for bushings Nos. 8013-8019 do not include flange or mounting rings.

## POST INSULATORS

## Rigid Type

Trade No.	Mfrs. No.	No. of Units	Nominal Rating	A In.	Ship Wt., Lbs.	Price Each
206632	7130	3	35000	20 $\frac{7}{8}$	73	
206633	7131	4	50000	26 $\frac{7}{8}$	90	
206634	7132	5	66000	32 $\frac{7}{8}$	107	
206635	7133	6	88000	38 $\frac{7}{8}$	125	On
206636	7134	7	110000	44 $\frac{7}{8}$	155	Appli-
206637	7138	5	70000	35 $\frac{1}{4}$	225	cation
206638	7137	6	88000	41 $\frac{1}{4}$	260	
206639	7136	7	110000	47 $\frac{1}{4}$	295	
206640	7135	8	140000	53 $\frac{1}{4}$	340	

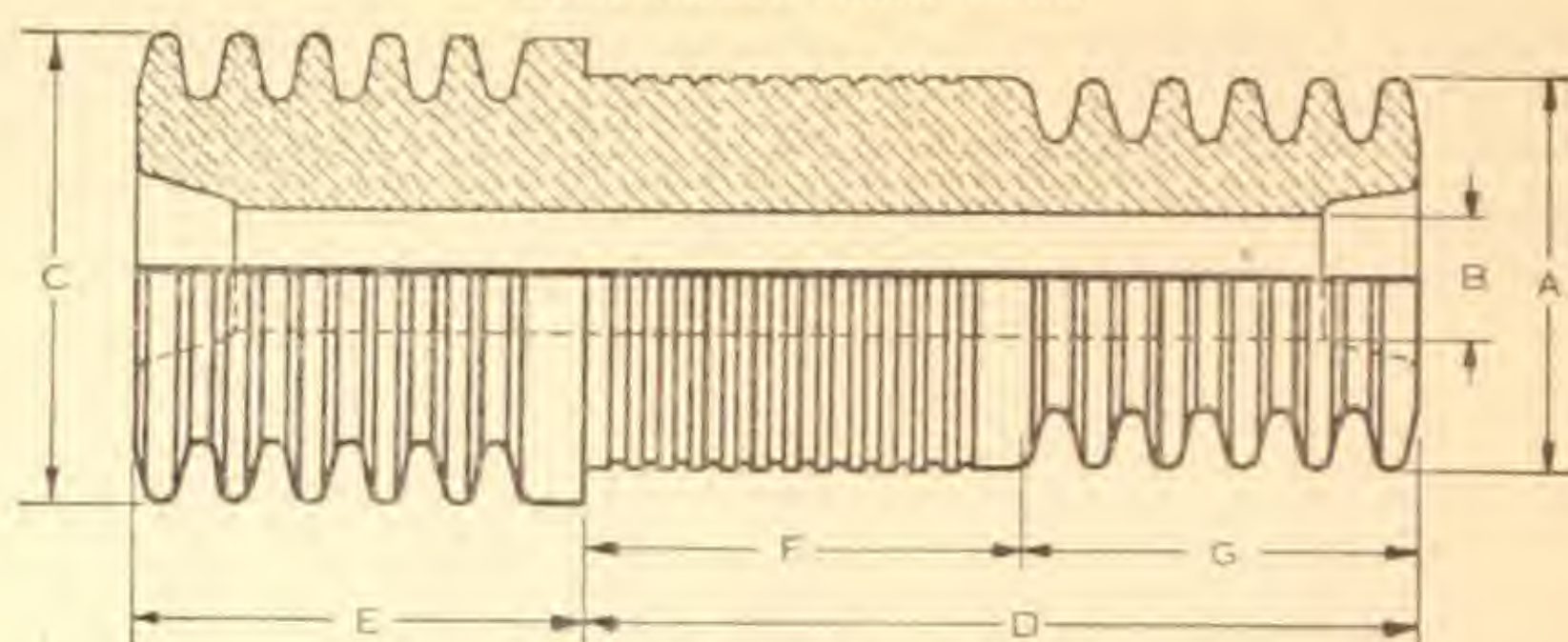
## Dimensions

Mfrs No.	DIMENSIONS, INCHES				
	B	C	D	E	F
7130	10	6	6	5	$9\frac{1}{16}$
7131	10	6	6	5	$9\frac{1}{16}$
7132	10	6	6	5	$9\frac{1}{16}$
7133	10	6	6	5	$9\frac{1}{16}$
7134	10	6	6	5	$9\frac{1}{16}$
7135	14	6	$9\frac{3}{4}$	$8\frac{1}{4}$	$5\frac{5}{8}$
7136	14	6	$9\frac{3}{4}$	$8\frac{1}{4}$	$5\frac{5}{8}$
7137	14	6	$9\frac{3}{4}$	$8\frac{1}{4}$	$5\frac{5}{8}$
7138	14	6	$9\frac{3}{4}$	$8\frac{1}{4}$	$5\frac{5}{8}$



## THOMAS CORRUGATED BUSHINGS

WITH SINGLE LARGE HEAD



Nos. 7400-7419

Trade No.	Mfrs. No.	DIMENSIONS, INCHES					Net Wt., Lbs., Each	Corrugated Heads	Per inch of F
		A	B	C	E	G			
048609	7400	4	1 1/4	4 3/4	3	2 1/2	4 56		928
048610	7401	4	1 1/4	4 3/4	3 3/4	3 1/4	5 94		928
048611	7402	4	1 1/4	4 3/4	4 1/2	4	7 19		928
048612	7403	4	1 1/4	4 3/4	6	5 1/2	9 38		928
048613	7404	4	1 1/4	4 3/4	7 1/2	7	12 25		928
048614	7405	4 1/4	1 1/2	5	3	2 1/2	5 75		971
048615	7406	4 1/4	1 1/2	5	3 3/4	3 1/4	7 30		971
048616	7407	4 1/4	1 1/2	5	4 1/2	4	8 87		971
048617	7408	4 1/4	1 1/2	5	6	5 1/2	11 43		971
048618	7409	4 1/4	1 1/2	5	7 1/2	7	15 05		971
048619	7410	4 3/4	2	5 1/2	3	2 1/2	6 06	1	230
048620	7411	4 3/4	2	5 1/2	3 3/4	3 1/4	7 75	1	230
048621	7412	4 3/4	2	5 1/2	4 1/2	4	9 38	1	230
048622	7413	4 3/4	2	5 1/2	6	5 1/2	12 62	1	230
048623	7414	4 3/4	2	5 1/2	7 1/2	7	15 87	1	230
048624	7415	5 1/4	2 1/2	6	3	2 1/2	7 56	1	412
048625	7416	5 1/4	2 1/2	6	3 3/4	3 1/4	9 38	1	412
048626	7417	5 1/4	2 1/2	6	4 1/2	4	11 30	1	412
048627	7418	5 1/4	2 1/2	6	6	5 1/2	15 10	1	412
048628	7419	5 1/4	2 1/2	6	7 1/2	7	18 85	1	412

Trade No.	Mfrs. No.	DIMENSIONS, INCHES									
		For D Equal To									
		6	8	10	12	14	16	18	20	22	
048609	7400	3 1/2	5 1/2	7 1/2	9 1/2	11 1/2	13 1/2	15 1/2	17 1/2	19 1/2	
048610	7401	2 3/4	4 3/4	6 3/4	8 3/4	10 3/4	12 3/4	14 3/4	16 3/4	18 3/4	
048611	7402	2	4	6	8	10	12	14	16	18	
048612	7403		2 1/2	4 1/2	6 1/2	8 1/2	10 1/2	12 1/2	14 1/2	16 1/2	
048613	7404			3	5	7	9	11	13	15	
048614	7405	3 1/2	5 1/2	7 1/2	9 1/2	11 1/2	13 1/2	15 1/2	17 1/2	19 1/2	
048615	7406	2 3/4	4 3/4	6 3/4	8 3/4	10 3/4	12 3/4	14 3/4	16 3/4	18 3/4	
048616	7407	2	4	6	8	10	12	14	16	18	
048617	7408		2 1/2	4 1/2	6 1/2	8 1/2	10 1/2	12 1/2	14 1/2	16 1/2	
048618	7409			3	5	7	9	11	13	15	
048619	7410	3 1/2	5 1/2	7 1/2	9 1/2	11 1/2	13 1/2	15 1/2	17 1/2	19 1/2	
048620	7411	2 3/4	4 3/4	6 3/4	8 3/4	10 3/4	12 3/4	14 3/4	16 3/4	18 3/4	
048621	7412	2	4	6	8	10	12	14	16	18	
048622	7413		2 1/2	4 1/2	6 1/2	8 1/2	10 1/2	12 1/2	14 1/2	16 1/2	
048623	7414			3	5	7	9	11	13	15	
048624	7415	3 1/2	5 1/2	7 1/2	9 1/2	11 1/2	13 1/2	15 1/2	17 1/2	19 1/2	
048625	7416	2 3/4	4 3/4	6 3/4	8 3/4	10 3/4	12 3/4	14 3/4	16 3/4	18 3/4	
048626	7417	2	4	6	8	10	12	14	16	18	
048627	7418		2 1/2	4 1/2	6 1/2	8 1/2	10 1/2	12 1/2	14 1/2	16 1/2	
048628	7419			3	5	7	9	11	13	15	

\*With  
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to the m  
No. 7201  
and includ

Trade  
No.

048564  
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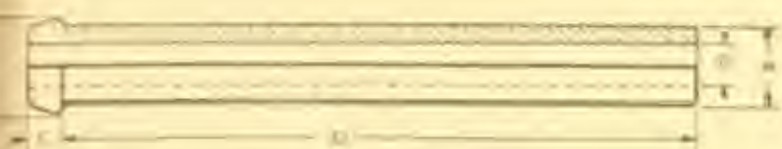
\*Mfr  
Mfrs. No.  
standard  
minimum  
No. 7275  
up to and



# THOMAS HIGH VOLTAGE TUBES

## HIGH VOLTAGE WALL TUBES

### With or Without Heads



Nos. 7200-7213

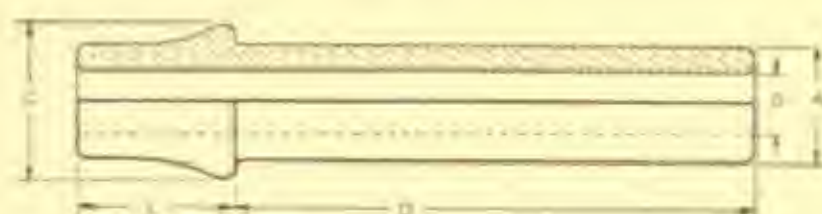
The tubes as listed in the following schedule can also be furnished without heads, in which case dimensions C and E are not used. Unless otherwise specified tubes will be furnished with heads.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES					Wt., Lbs. per inch of Length
		A	B	C	E	*D	
1985	7200	2 1/4	1	2 3/4	1	2 to 42	270
1987	7201	2 1/4	1 1/4	2 3/4	1	2 to 42	233
1988	7202	3 7/8	2 5/8	4 5/8	1 1/2	4 to 36	542
1989	7203	5 1/2	4 1/4	6 1/2	2	6 to 34	808
1990	7204	7 1/4	5 7/8	8 1/2	2 1/2	6 to 34	1 20
1991	7205	9	7 5/8	10 1/4	3	6 to 32	1 53
1992	7210	3	1 3/4	3 3/4	1	4 to 42	396
1993	7211	4 3/8	3 3/8	5 3/8	1 1/2	6 to 36	668
1994	7212	6 3/8	5	7 3/8	2	6 to 34	1 04
1995	7213	8 1/8	6 3/4	9 3/8	2 1/2	6 to 34	1 37

\*With the exception of Mfrs. Nos. 7200 and 7201 which can be furnished with a D dimension of 3 inches, all standard tubes are increased by regular steps of 2 inches from the minimum to the maximum as indicated under heading "D" of the above schedule. For example, No. 7204 is furnished in lengths commencing with 6 inch and proceeding 8, 10, 12, 14, etc., up to and including the given maximum of 34 inches. All packed to suit individual requirements.

## HIGH VOLTAGE FLOOR TUBES

### With Heads



Nos. 7250-7278

Trade No.	Mfrs. No.	DIMENSIONS, INCHES					Wt., Lbs. per Inch of Length
		A	B	C	E	D	
18564	7250	1 3/4	3/4	2 1/2	3	*4 to 28	167
18565	7251	2	1	2 3/4	3	*4 to 28	200
18566	7252	2 1/4	1 1/4	3	3	*4 to 28	240
18567	7253	2 1/2	1 1/2	3 1/4	3	*4 to 28	267
18568	7254	2 3/4	1 3/4	3 1/2	3	*4 to 28	300
18569	7255	3	2	3 3/4	3	6 to 28	334
18570	7256	3 3/4	2 1/2	4 1/2	3	6 to 28	523
18571	7257	4 1/4	3	5	3	6 to 28	605
18572	7258	4 3/4	3 1/2	5 1/2	3	8 to 28	690
18573	7260	1 3/4	3/4	2 1/2	4 1/2	6 to 28	167
18574	7261	2	1	2 3/4	4 1/2	6 to 28	200
18575	7262	2 1/4	1 1/4	3	4 1/2	6 to 28	240
18576	7263	2 1/2	1 1/2	3 1/4	4 1/2	6 to 28	267
18577	7264	2 3/4	1 3/4	3 1/2	4 1/2	6 to 28	300
18578	7265	3	2	3 3/4	4 1/2	6 to 28	334
18579	7266	3 3/4	2 1/2	4 1/2	4 1/2	6 to 28	523
18580	7267	4 1/4	3	5	4 1/2	6 to 28	605
18581	7268	4 3/4	3 1/2	5 1/2	4 1/2	6 to 28	690
18582	7272	3	1 1/4	4 1/4	6	12 to 28	498
18583	7273	3 1/4	1 1/2	4 1/2	6	12 to 28	562
18584	7274	3 1/2	1 3/4	4 3/4	6	12 to 28	613
18585	7275	3 3/4	2	5	6	12 to 28	667
18586	7276	4 1/4	2 1/2	5 1/2	6	12 to 28	790
18587	7277	4 3/4	3	6	6	12 to 28	905
18588	7278	5 1/4	3 1/2	6 1/2	6	12 to 28	1 020

\*Mfrs. Nos. 7250, 7251 and 7252 can also be furnished in 3 inch and 5 inch lengths. Mfrs. Nos. 7253 and 7254 can also be furnished in 5 inch lengths. With these exceptions all standard tubes in this group are increased in lengths by regular steps of 2 inches from the minimum to the maximum as indicated under heading "D" of the above schedule. For example No. 7275 is furnished in lengths commencing with 12 inches and proceeding 14-16-18, etc., up to and including the given maximum of 28 inches. All packed to suit individual requirements.



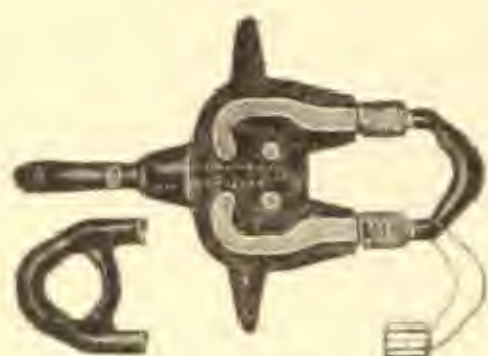
## DISK STRAIN INSULATORS



No. 150



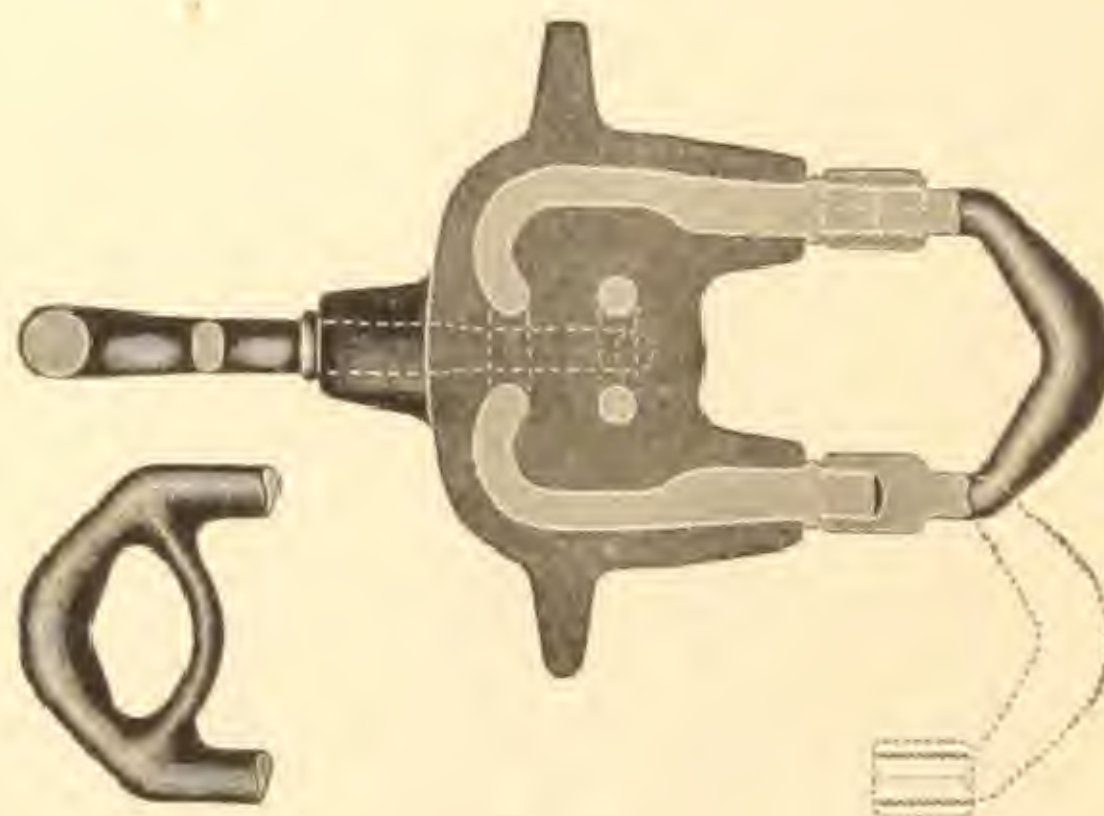
No. 151



No. 157



No. 152

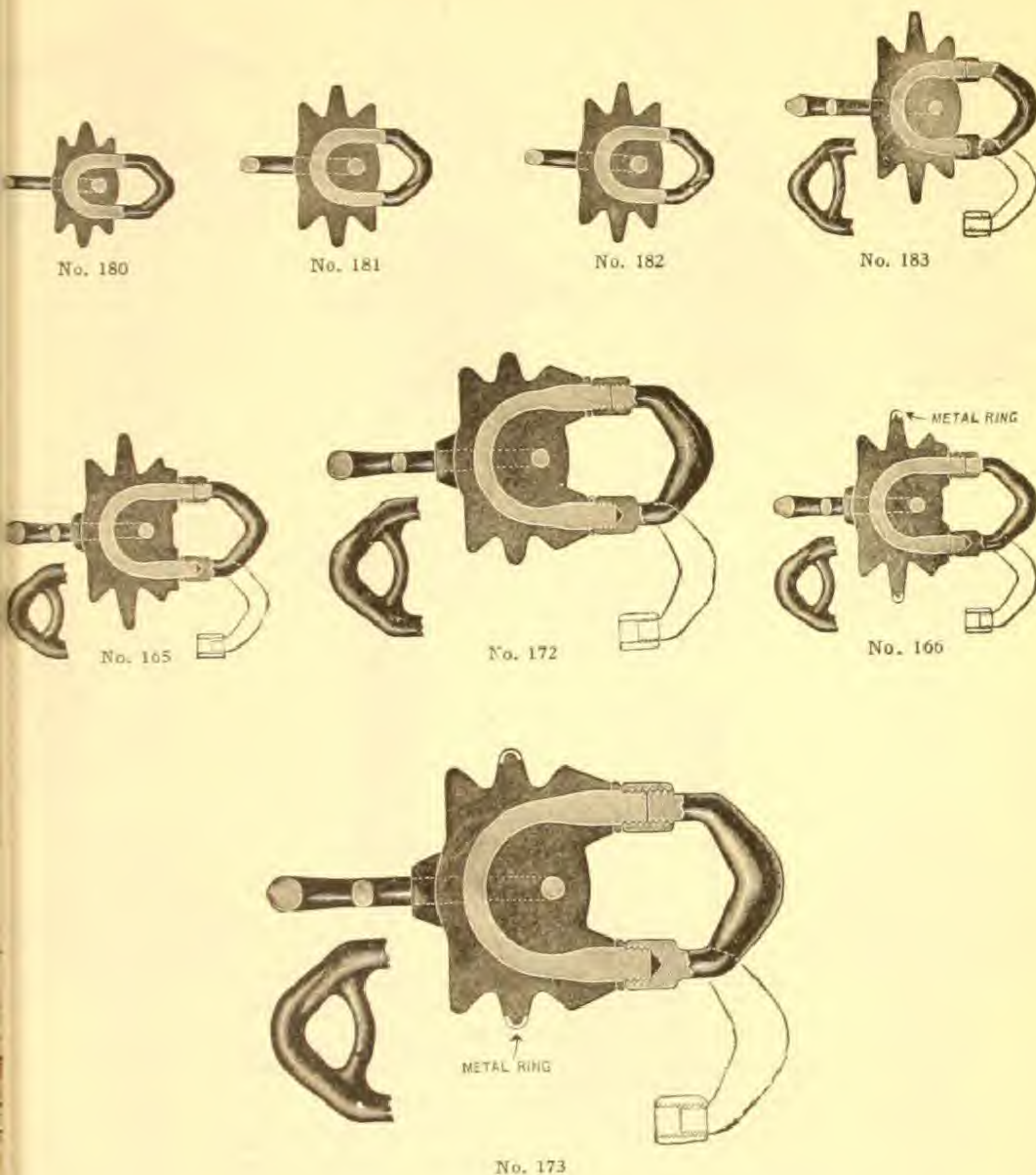


No. 174

Mfrs. No.	Diam. In.	Length of Body In.	Opening of Eye In.	Over All Length In.	Breaking Strength Lbs.	Mechan- ical Test Lbs.	ELECTRICAL VALUE, VOLTS		Line Volt- age	Net Wt. Lbs.	Price Each
							Dry	Rain			
150	2 $\frac{3}{4}$	1 $\frac{1}{4}$	$\frac{5}{8} \times \frac{3}{16}$	4 $\frac{7}{8}$	2000	1250	35000	13200	6600	1	\$3.50
151	4	1 $\frac{3}{4}$	$\frac{3}{4} \times 1$	6 $\frac{5}{8}$	3400	1700	45000	22000	11000	2	7.00
152	5	2 $\frac{1}{8}$	1 $\times$ 1 $\frac{1}{4}$	7 $\frac{7}{8}$	5000	2500	60000	35000	16500	3 $\frac{1}{2}$	12.25
157	7	3	1 $\frac{3}{8} \times$ 1 $\frac{1}{2}$	10 $\frac{3}{8}$	14000	7000	75000	40000	13000	6	17.50
175	8	3 $\frac{3}{8}$	1 $\frac{1}{4} \times$ 1 $\frac{1}{4}$	13 $\frac{1}{8}$	12000	6000	90000	50000	25000	7 $\frac{1}{2}$	28.00
174	9 $\frac{1}{2}$	4	1 $\frac{1}{2} \times$ 1 $\frac{7}{8}$	16	18000	9000	100000	60000	30000	11	43.75



# DISK STRAIN INSULATORS



Mfrs. No.	Diam. In.	Length of Body In.	Open- ing Eye In.	Over All Length In.	Breaking Strength Lbs.	Mechan- ical Test Lbs.	ELECTRICAL VALUE VOLTS		Line Voltage	Net Wt. Lbs.	Price Each
							Dry	Rain			
180	3	1 3/8	5/8 x 5/8	3 1/2	6000	3000	40000	15000	6600	1 1/8	\$2.14
181	4	1 7/8	1 x 1	5	10000	5000	50000	25000	11000	2	4.28
182	4	1 7/8	5/8 x 3/4	6 9/16	10000	5000	50000	25000	11000	2 1/4	9.63
183	5	2 3/8	1 x 7/8	7 3/4	15000	7500	60000	35000	16500	4	10.70
184	6	2 5/8	1 1/8 x 1 5/8	9	18000	9000	70000	44000	22000	5 1/4	14.98
165	7 1/2	3 1/2	1 1/4 x 1 5/8	10 5/8	20000	10000	85000	55000	25000	7 3/4	17.12
166	7 1/2	3 1/2	1 1/4 x 1 5/8	10 5/8	20000	10000	85000	55000	25000	8 1/2 On Application	
172	8	4 3/8	1 1/2 x 2 1/8	14 3/4	25000	10000	115000	70000	33000	16	34.24
173	8	4 3/8	1 1/2 x 2 1/8	14 3/4	25000	10000	115000	70000	33000	16 1/2 On Application	



## PIN TYPE LINE INSULATORS



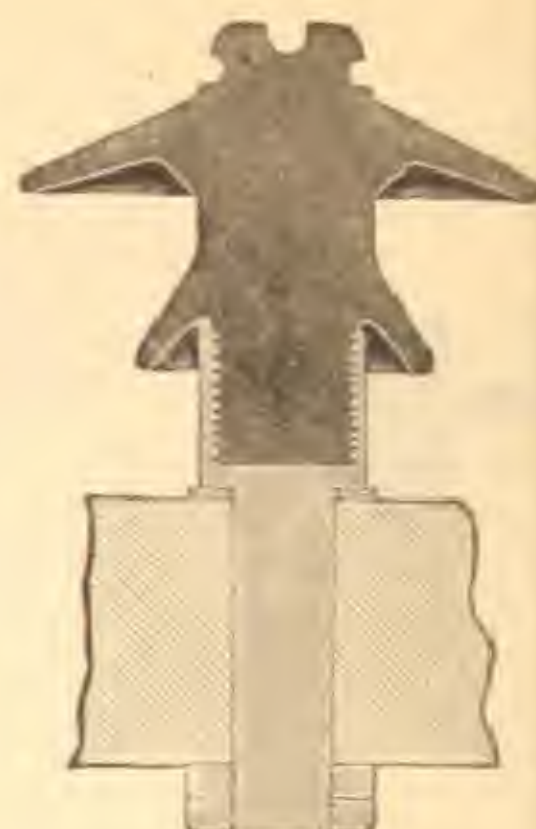
No. 3022



No. 3034A



No. 3034



No. 3097



No. 7309



No. 7312



No. 8317



No. 8318

## INSULATORS

Mfrs. No.	Diam. In.	Height In.	Width of Top Groove In.	Width of Side Groove In.	Diam. of Pinhole In.	Depth of Pinhole In.	ELECTRICAL VALUE, VOLTS		Line Voltage	Net Wt. Lbs.	Price Each
							Dry	Rain			
3090	9	17	1 1/8	5/8	1 3/8	2 5/8	185000	135000	66000	...	\$37.60
3022	7	7 1/8	1 1/8	5/8	1 3/8	2 5/8	85000	55000	22000	5 1/4	6.58
3034A	8	7 1/8	1	5/8	1 1/2	2 3/4	90000	66000	33000	8	9.78
3034	12	7 1/8	1	5/8	1 1/2	2 3/4	110000	75000	33000	10 1/2	12.22
3097	12	17	1	5/8	1 1/2	2 3/4	130000	75000	33000	...	22.56
3031	14	14	1	5/8	1 3/4	2 1/2	185000	130000	66000	...	47.60

## INSULATED PINS

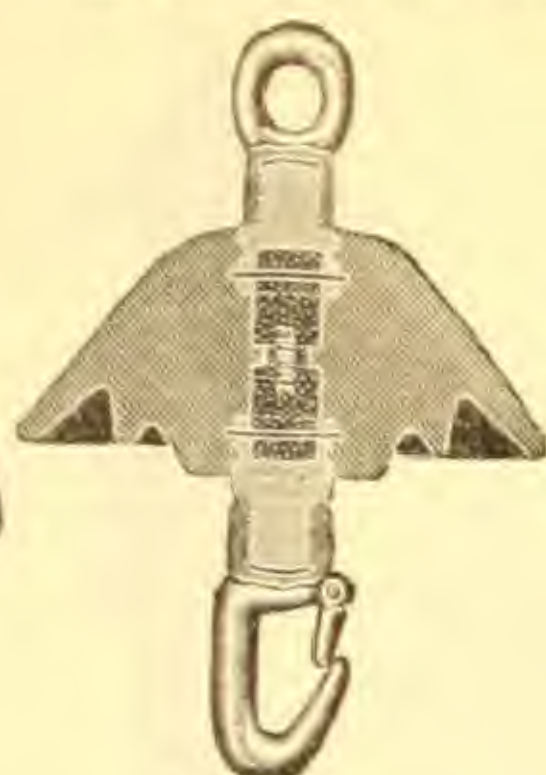
Mfrs. No.	Greatest Diameter of Electrode Portion In.	Height of Electrode Portion In.	Diameter of Imbedded Metal Pin In.	Extension of Metal Pin Beyond Electrode In.	Net Wt. Lbs.	Price Each
7309	2 1/2	4 3/4	1/2 pipe	4 3/4	...	\$2.26
7312	1 3/8	4 3/4	1/2 pipe	4 3/4	...	1.50
8313	3	8 5/8	3/4	2 1/4	...	3.57
8314	2 1/2	13 1/8	3/4	1 3/4	...	4.32
8317	3	12 1/4	3/4	2 1/2	...	5.64
8318	3	8 5/8	3/4	6 3/4	3 1/2	3.70



# ARC LAMP INSULATORS



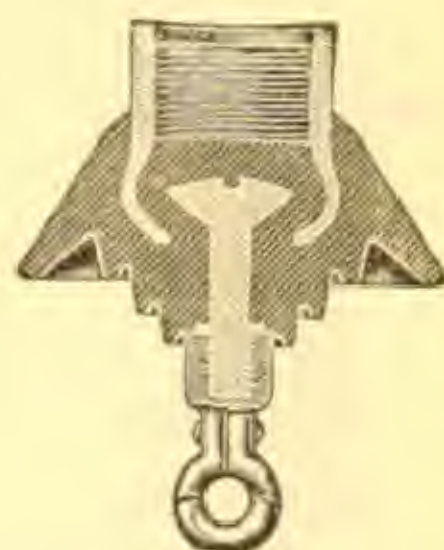
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No. 5507



No. 5516



No. 5517



No. 5519



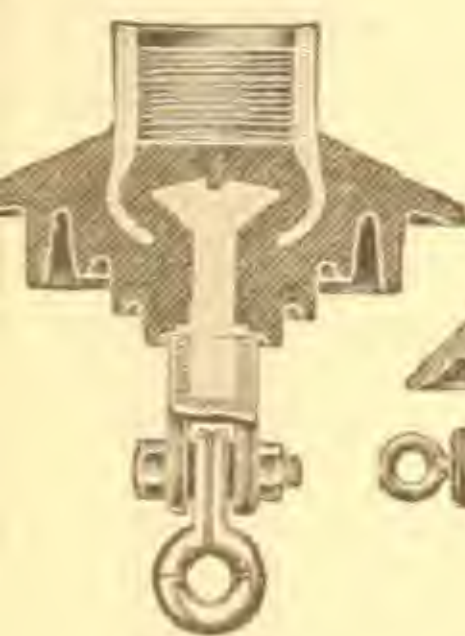
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No. 5526



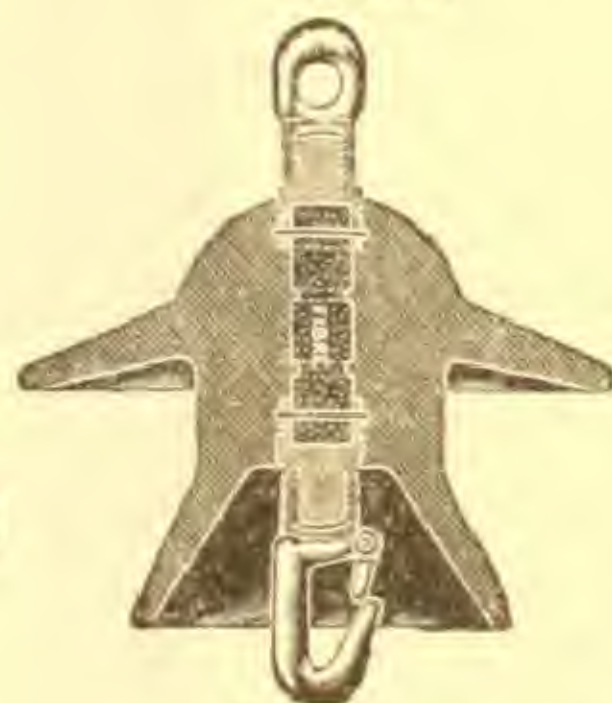
No. 5527



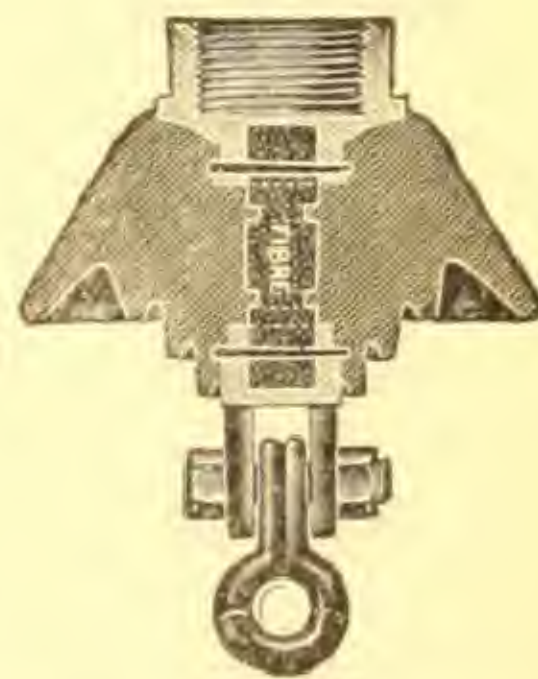
No. 5529



No. 5531



No. 5532



No. 5537

No.	Diam. In.	Height Body In.	Over All Height In.	Terminals	Mech. Value Lbs.	ELECTRICAL VALUE, V.		Line Voltage	Price Each
						Dry	Rain		
5505	5 3/8	2 3/8	6 3/8	3/8-in. eye, opening latch hook	3500	60000	30000	11000	8.56
5507	5	2 1/8	7 1/2	3/8-in. diam. eye, latch hook	3000	68000	30000	11000	7.49
5516	5	2 3/8	8	3/8-inch eye, latch hook	3500	68000	30000	11000	7.49
5517	5	3	6 1/8	1 1/8-inch thread by 1 1/8-inch deep, 3/8-in. sister hooks	3500	68000	30000	11000	8.56
5519	5	2 5/8	7 1/8	1 1/8-in. thread by 1 1/8-in. deep, latch hook	3000	68000	30000	11000	8.56
5525	6	2 3/8	8	3/8-in. eye, latch hook	3500	65000	30000	11000	8.56
5526	6	2 3/8	7 1/4	3/8-in. eye 3/8-in. elevis	3500	85000	30000	11000	8.56
5527	6	2 3/8	7 1/4	3/8-in. eye latch hook	3000	38000	20000	15000	8.56
5529	6	2 3/8	7	1 1/8-in. thread, 3/8-in. deep, 3/8- in. sister hooks	3500	65000	30000	11000	8.56
5531	8	3	10 1/4	3/4-in. eyes	3500	45000	25000	6600	21.40
5532	7	5	7 3/8	3/8-in. eye, latch hook	3000	80000	48000	22000	9.10
5537	5	2 5/8	6 1/2	1 1/8-in. thread, 3/8-in. deep, 3/8- in. sister hooks	3000	68000	30000	11000	8.56



## BUSHINGS AND INSULATED CONNECTORS



No. 7125



No. 7126



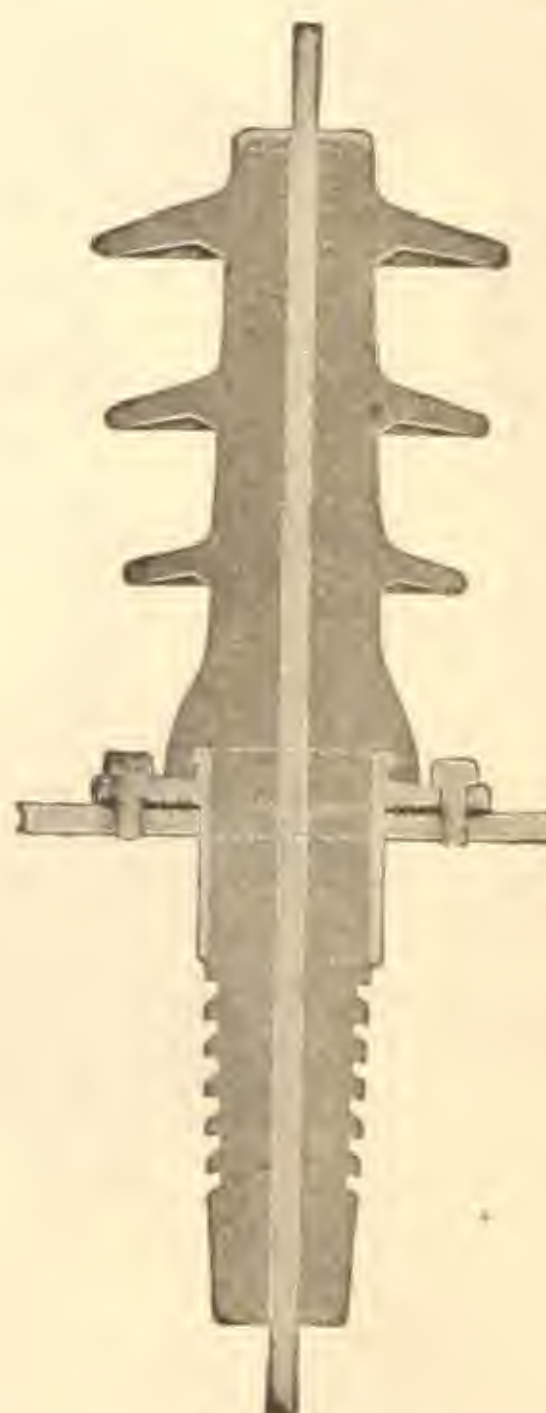
No. 7127



No. 7128



No. 7149



No. 7162



No. 7163-R

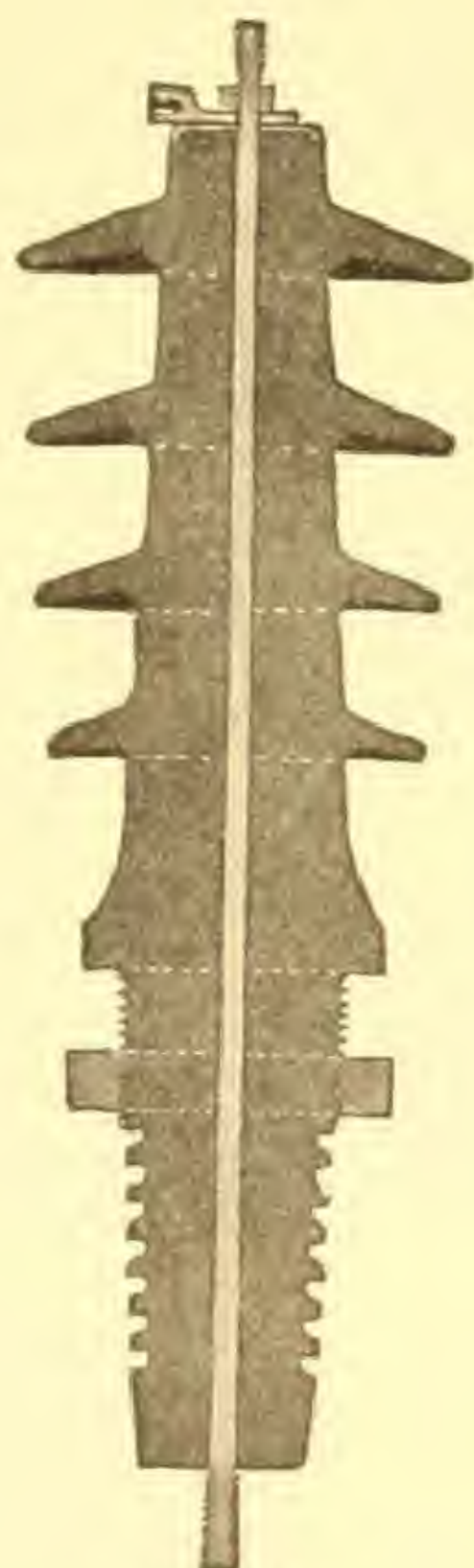
Mfrs. No.	Height of Body Inches	Diam. of Section Fitting into Barrier Inches	Largest Diam. of Insulator Inches	Locking Space Inches	Diam. of Hole or Rod Inches	ELECTRICAL VALUE, VOLTS		Line Voltage	Net Wt. Pounds	Price Each
						Dry	Rain			
7125	16	2 5/16	7	2	1 1/4	100000	60000	22000	8 3/4	\$17.82
7126	16	2 5/16	7	2	3/4	100000	60000	22000	9 1/4	17.82
7127	16	2 5/16	7	2	1 1/2	100000	60000	22000	11	22.68
7128	16	2 5/16	7	2	1 1/2	100000	60000	22000	10 5/8	22.68
7178	16	2 3/4	7	..	1 1/2	100000	60000	22000	18	29.16
7149	23	3 1/2	8	3	1 1/2	135000	85000	33000	18 1/2	32.40
7162	23	3 1/2	8	..	1 1/2	135000	85000	33000	24	39.69
7163R	23	3 1/2	8	..	1 1/2	135000	85000	33000	27	42.12



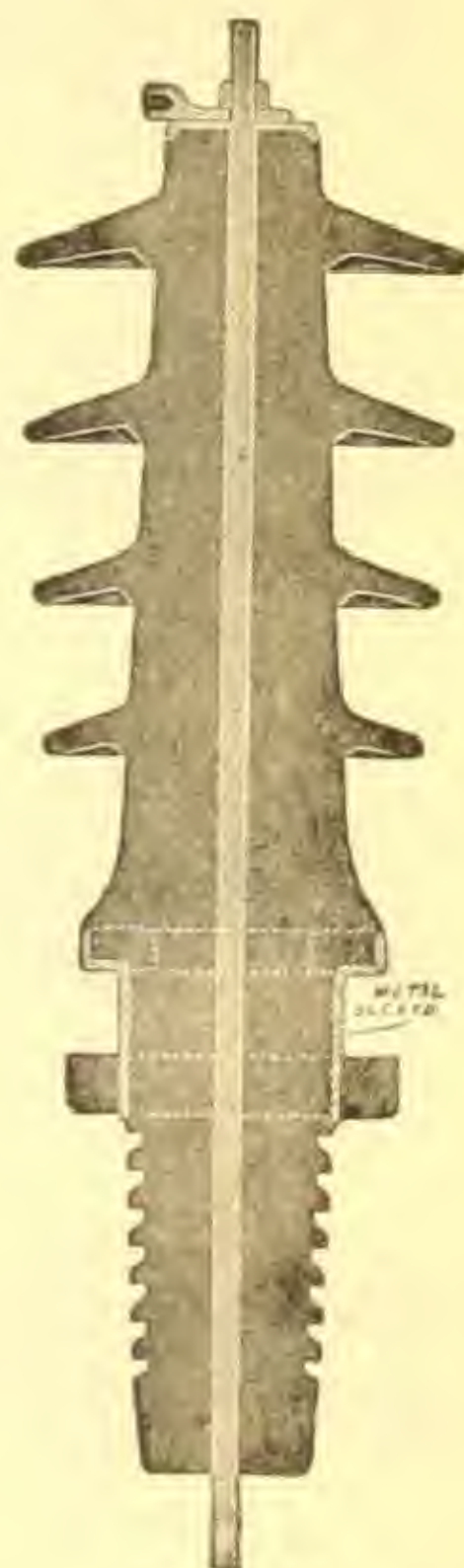
# BUSHINGS AND INSULATED CONNECTORS



No. 7140



No. 7137



No. 7137-A

Height of Body In.	Diameter of Section Fitting into Barrier In.	Largest Diameter Insulator In.	Lock- ing Space In.	Diam. of Hole or Rod In.	ELECTRICAL VALUE, VOLTS		Line Voltage	Net Wt. Lbs.	Price Each
					Dry	Rain			
27	4 1/2	9	2	1 1/2	180000	135000	44000	30	848.60
27	4 1/2	9	2	1 1/2	180000	135000	44000	33	56.70
27	4 1/2	9	2	1 1/2	180000	135000	44000	40	77.76
33	4 1/2	9	3 1/2	1 1/2	180000	135000	44000	45	85.86



## STRAIN INSULATORS



No. 4700

## GLOBE STRAIN INSULATORS

## With Two Eyes—Malleable Iron Terminals

Trade No.	Mfrs. No.	Diam. Inches	Price per 100	Trade No.	Mfrs. No.	Diam. Inches	Price per 100
064510	4700	2	\$70 00	064516	4706	2 3/4	\$135 00
064512	4702	2 1/4	80 00	064518	4708	3	170 00
064514	4704	2 1/2	90 00				



No. 4720

## With Eye and Clevis—Malleable Iron Terminals

064525	4720	2	85 00	064531	4726	2 3/4	150 00
064527	4722	2 1/4	95 00	064533	4728	3	185 00
064529	4724	2 1/2	105 00				

## MACALLEN GIANT SHEET MICA INSULATORS

## With Two Eyes



No. 4501

Trade No.	Mfrs. No.	Diam. of Body Inches	Inside Diam. of Eyes Inches	Distance between Centers Inches	Diameter of Stud Conn. Inches	Average Breaking Strain Lbs.	Price per 100
106312	4501	1 3/4	1 1/8	5 1/8	7/8	5000	\$88 00
106313	4511	2	1 1/8	5 3/8	1 1/2	7500	98 00
106314	4515	2	1 1/8 & 1	5 1/4	1 1/2	7500	108 00
106315	4517	2	1	5 1/8	1 1/2	7500	118 00
106316	4526	2 1/4	1	5 1/2	5/8	8500	130 00
106317	4541	2 5/8	1	5 3/4	3/4	10000	164 00

## With Eye and Clevis



No. 4503

Trade No.	Mfrs. No.	Diam. of Body Inches	Inside Diam. of Eye Inches	Width of Clevis Inches	Distance between Centers Inches	Diameter of Stud Conn. Inches	Average Breaking Strain Lbs.	Price per 100
106318	4503	1 3/4	1 1/8	5/8	4 7/8	7/8	5000	\$98 00
106319	4513	2	1 1/8	5/8	5 1/8	1 1/2	7500	108 00
106320	4519	2	1	5/8	5	1 1/2	7500	118 00
106321	4528	2 1/4	1	1 1/8	5 5/8	5/8	8500	140 00
106322	4543	2 5/8	1	1 1/8	5 7/8	3/4	10000	174 00

## With Two Clevises



No. 4504

Trade No.	Mfrs. No.	Diam. of Body Inches	Width of Clevises Inches	Distance between Centers Inches	Diameter of Stud Conn. Inches	Average Breaking Strain Lbs.	Price per 100
106323	4504	1 3/4	5/8	4 5/8	7/8	5000	\$108 00
106324	4521	2	5/8	4 7/8	1 1/2	7500	118 00
106325	4530	2 1/4	1 1/8	5 3/4	5/8	8500	150 00
106326	4545	2 5/8	1 1/8	6	3/4	10000	184 00

## WOOD STRAIN INSULATORS

## With Two Eyes



No. 4600

Trade No.	Mfrs. No.	Diam. Inches	Length, Inches	Center of Eyes	Price per 100
064540	4600	1	5	9 1/2	\$75 00
064541	4608	1 1/4	5	9 1/2	85 00
064542	4606	1	15	19 1/2	105 00
064543	4614	1 1/4	15	19 1/2	120 00

## With Eye and Clevis



No. 4650

Trade No.	Mfrs. No.	Diam. Inches	Length, Inches	Center of Eyes to Clevis Bolt	Price Each
064544	4650	1	5	9 3/4	\$90 00
064545	4654	1 1/4	5	9 3/4	100 00

## With Eye and Tapped End



No. 4660

Trade No.	Mfrs. No.	Diam. Inches	Length, Inches	Center of Eyes to End of Boss	Price Each
064546	4660	1	5	9 1/2	\$95 00
064547	4662	1 1/4	5	9 1/2	105 00



## PORCELAIN CLAMP BUSHINGS

### FEDERAL PORCELAIN CLAMP BUSHINGS

These bushings are made of one piece of the best grade of vitrified porcelain. Clamping rings are made of metal, threaded to fit threads on the porcelain.

#### Type A

Can be used on material  $\frac{1}{4}$  inch or less in thickness.

Trade No.	Mfrs. No.	DIAM., IN.		Approx. Max. Size Wire	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
		In- side	Out- side					
023113	1-A-1	$\frac{3}{16}$	$\frac{41}{64}$	No. 10 S.B.R.C. solid	100	300	9	\$0 05
023114	A-1 $\frac{1}{2}$	$\frac{3}{16}$	$\frac{9}{16}$	No. 10 S.B.R.C. solid	100	250	18	06
023115	A-2	$\frac{1}{8}$	$\frac{5}{16}$	No. 8 S.B.R.C. solid	50	250	17	06
023116	A-3	$\frac{3}{16}$	1	No. 3 D.B.R.C. stranded	50	250	24	07
023117	A-4	$\frac{3}{16}$	$1\frac{5}{16}$	No. 00 D.B.R.C. stranded	25	150	22	08
023118	A-5	$1\frac{1}{8}$	$1\frac{5}{8}$	450000 C.M.D.B.R.C. cable	25	100	20	12
023155	A-6	$1\frac{5}{8}$	$2\frac{1}{4}$	1000000 C.M.D.B.R.C. cable	12	48	21	25

#### Type B—Extra Long

Trade No.	Mfrs. No.	DIAM., IN.		Approx. Max. Size Wire	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
		In- side	Out- side					
023156	B1	$\frac{3}{16}$	$\frac{11}{16}$	No. 10 S.B.R.C. solid	50	100	6	\$0 10

Can be used with material  $\frac{5}{8}$  to  $\frac{3}{4}$  inch in thickness.  
Length over all,  $1\frac{5}{8}$  inches; under head,  $1\frac{1}{8}$  inches.

#### Elbow Type

Special shape for outdoor work, preventing water from entering around wire. Also used instead of regular bushing where wires leave surface at an angle. A small projection behind the head, designed to engage a notch which can be made easily in the metal opening, prevents the bushing from turning after the clamping ring is tightened.

Trade No.	Mfrs. No.	DIAM., IN.		Approx. Max. Size Wire	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
		In- side	Out- side					
088427	K-1	$\frac{3}{16}$	$\frac{41}{64}$	No. 10 S.B.R.C. solid	50	100	6	\$0 15
088428	K-2	$\frac{1}{8}$	$\frac{5}{16}$	No. 8 S.B.R.C. solid	50	100	10	20

### SQUARE D PORCELAIN BUSHINGS

For Use in Conduit Knockout Opening



Porcelain bushings are designed for use in any sheet steel cabinet of National Code standard thickness.

	Mfrs. No.	Diam. Wire Hole Inches	Outside Diam. of Shank Inches	Equivalent Size Conduit Inches	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
56	17111	$\frac{5}{16}$	$\frac{9}{16}$	$\frac{1}{2}$	50	250	$12\frac{1}{2}$	\$4 50
57	17112	$\frac{11}{16}$	$\frac{9}{16}$	$\frac{1}{2}$	50	250	$12\frac{1}{2}$	4 50
58	17212	$\frac{11}{16}$	1	$\frac{3}{4}$	25	150	6	5 25
59	17213	$\frac{1}{8}$	1	$\frac{3}{4}$	25	150	6	5 25
60	17314	$\frac{3}{4}$	$1\frac{1}{4}$	1	25	100	6	6 50
61	17416	$1\frac{1}{8}$	$1\frac{5}{8}$	$1\frac{1}{4}$	25	50	5	6 50

Price includes spring wire clamp with each bushing.



## PORCELAIN INSULATORS



No. 0



No. 1



No. 2



No. 3



No. 3WG

Trade No.	Stand. No.	Height	DIMENSIONS, INCHES		Groove	No. in Bbl.	Wt., Lbs. per Bbl.	Price per 1000
			Diam.	Hole				
042978	0	2 1/4	3	1 1/4	1	450	400	\$300.00
042979	1	3	2 1/8	7/16	3/4	675	465	182.00
042980	2	2	2	1 1/2	1 1/2	1050	475	120.00
042981	3	1 3/4	2	7/16	7/16	1200	480	110.00
042982	3WG	1 3/4	2	7/16	3/4	1200	470	110.00



No. 3 1/2



No. 4



No. 4 1/2



No. 5 1/2



No. 5 1/2 Nailit



No. 6



No. 7



No. 8

042983	3 1/2	2	2	7/16	7/16	1050	450	110.00
042984	4	1 11/16	1 1/2	3/8	3/8	2200	490	55.00
042985	4 1/2	1 7/8	1 1/2	3/8	7/16	1900	475	55.00
042986	5	1 1/4	1	1/4	5/16	6000	480	29.00
44677	†5 1/2	1 9/16	1 1/8	1/4	5/16	4500	500	38.00
41936 Nailit	†5 1/2	1 3/4	1 3/16	1/4	5/16	4000	485	56.00
042988	6	1 7/8	1 3/8	3/2	1/4	13000	490	22.00
042989	7	3/4	7/8	1/4	7/16	13500	475	26.00
042990	8	1 5/16	1	1/4	5/16	9000	475	26.00

†New Code.



No. 9



No. 10



No. 11



No. 12



No. 13



No. 15



No. 20

042991	9	1 1/8	5/8	3/16	3/16	12000	475	25.00
042992	10	1 3/4	1 5/8	3/8	3/8	2000	490	75.00
042993	11	1 11/16	1 1/8	1/4	1/2	9000	480	45.00
042994	12	1 13/16	1 3/8	5/16	9/16	8000	460	58.00
042995	13	1 3/4	1 5/16	1/8	5/8	5500	450	81.00
41934	14	3/4	7/8	1/4	3/16	13000	480	26.00
042996	15	1 5/16	1 3/4	7/16	1/2	2200	490	76.00
042997	20	2	2	3/8	5/8	1100	475	130.00



# PORCELAIN INSULATORS AND CLEATS



No. 21



No. 22



No. 23



No. 24



No. 25



No. 26



No. 29



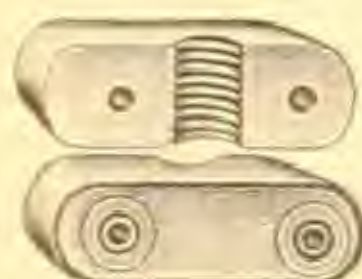
No. 36



No. 39

## PORCELAIN INSULATORS

Trade No.	Mfrs No.	DIMENSIONS, INCHES				Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
		Height	Diam.	Hole	Groove			
042951	21	27/8	2	1 1/2	9/16	700	480	\$170.00
042952	22	15/8	2 1/8	1	5/16	1400	450	156.00
042953	23	11 1/2	1 1/2	3/8	1	2400	450	76.00
042954	24	13 1/4	1 7/8	7/16	5/8	1200	475	102.00
042955	25	11 1/2	2 1/2	9/16	1 1/16	750	440	142.00
042956	26	2	2 1/4	5/8	9/16	800	475	142.00
042957	29	2 1/4	2 1/2	7/16	1 1/4	575	400	200.00
042958	36	13 1/4	1 3/4	1 1/2	3/4	1800	460	90.00
042959	39	13 1/4	2 1/2	3/4	1 3/8	650	425	158.00



No. 1



No. 1A

## STANDARD PORCELAIN CLEATS

### One-wire, Glazed

Trade No.	Mfrs No.	DIMENSIONS, INCHES				Std. Pkg.	Wt., Lbs. Std. Pkg.	Price, per 1000 Pair
		Length	Width	Groove	Hole			
042962	1	15/16	3/4	3/16	1/4	4000	525	\$74.00
042963	1A *	15/16	3/4	3/16	1/4	2700	540	80.00
042964	2	2 1/4	1 5/16	1/4	1/4	2200	520	96.00
042965	2A *	2 1/4	1 5/16	1/4	1/4	1750	535	108.00
042966	3	2 9/16	1 1/8	7/16	1/4	1800	520	110.00
042967	3A *	2 9/16	1 1/8	7/16	1/4	1350	525	125.00
042968	4	2 11/16	1 1/4	1 1/2	1/4	1200	520	140.00
042969	4A *	2 11/16	1 1/4	1 1/2	1/4	1000	525	156.00
042970	5	3	1 5/16	9/16	1/4	900	520	180.00
042971	5A *	3	1 5/16	9/16	1/4	750	525	196.00
57351	6A *	3 3/8	1 3/8	3/4	3/8	600	540	196.00
57352	7A *	3 5/16	1 7/16	1	3/8	500	540	220.00
57353	8A *	4 3/4	1 5/8	1 3/8	3/8	300	500	330.00
57354	8 1/2 A *	5	2	1 1/4	3/8	165	490	410.00
57355	9A *	5	2	1 1/2	3/8	165	490	500.00

### Two-wire

Trade No.	Mfrs No.	Description	DIMENSIONS, INCHES				Std. Pkg.	Wt., Lbs. Std. Pkg.	Price, per 1000 Pair
			Ht.	Width	Lgth.	Groove			
042974	334	Glazed	1 1/8	1 1/16	3 1/4	3/16	2400	500	\$90.00
042975	334	Unglazed	1 1/8	1 1/16	3 1/4	3/16	2400	500	52.00

### Three-wire

Trade No.	Mfrs No.	Description	Ht.	Width	Lgth.	Groove	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price, per 1000 Pair
042972	337	Glazed	1 1/8	1 1/16	3 1/4	3/16	2400	500	90.00
042973	337	Unglazed	1 1/8	1 1/16	3 1/4	3/16	2400	500	52.00

\*Style A carry wires 1 inch over wiring surface.



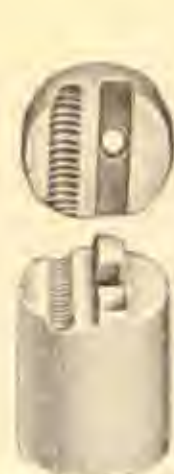
No. 334



No. 337



## PORCELAIN SPLIT INSULATORS



No. 046321



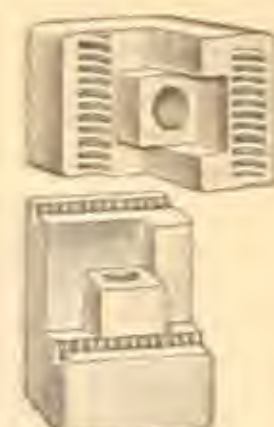
No. 58401



No. 046323



No. 58402



No. 046326



No. 58405



No. 70727



No. 039636



No. 37037



No. 042952



No. 046333

## SPLIT INSULATORS

Trade No.	Mfrs. No.	No. of Grooves	For Size Wire	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
046321	51½	1	12-14	4000	500	\$52.00
58401	1849	2	12-14	4000	500	52.00
046323	9419	4	8-10	2000	500	87.00
046324	9420	4	4-6	1000	475	142.00

## Round Reversible

58402	1	2	12-14	3700	500	52.00
58403	2	2	8-10	2000	500	110.00
58404	3	2	4-6	1000	500	160.00

## Square Reversible

046326	55½	2	12-14	3700	540	75.00
046327	45½	2	8-10	2000	500	110.00
046328	35½	2	4-6	1000	500	160.00

## Interchangeable, Self-centering

58405	1911	2	12-14	2200	470	62.00
58406	1912	2	4-10	1500	470	.....
58407	1913	2	00-4	800	470	.....

## Unit

Trade No.	Mfrs. No.	To Hold Size Wire	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
70727	1	12 and smaller	4000	500	\$62.00
70728	2	10, 8, 6	2000	500	132.00

## Grip-it

039636	5½	14	4000	510	52.00
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## Nail-it

Nail-it consists of cap, base, 10d. nail and nail head assembled.

37037	5½	12 and smaller	3250	500	70.00
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## Screw-it

Screw-it consists of base, cap and 3-inch screw assembled.

37038	1	12 and smaller	3250	500	90.00
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## Victor

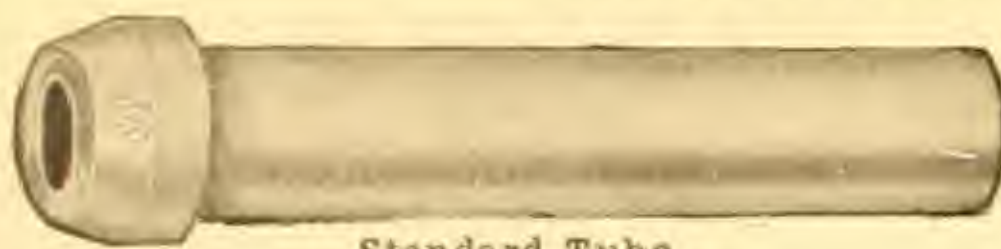
Trade No.	Mfrs. No.	DIMENSIONS, INCHES				Std. Pkg.	Wt., Lbs. per Bbl.	Price per 1000
042952	22	Ht.	Diam.	Hole	Groove	1400	450	\$156.00

## STRAIN INSULATORS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price per 100
046333	8	Small size, ¾-inch	500	\$6.88
046334	9	Large size, ½-inch	250	11.80



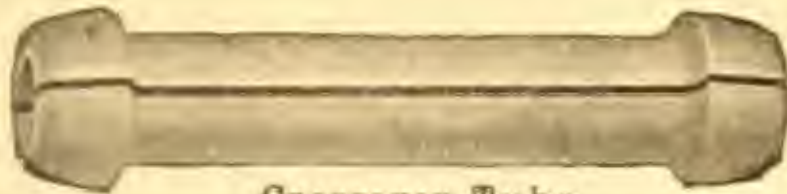
# PORCELAIN TUBES



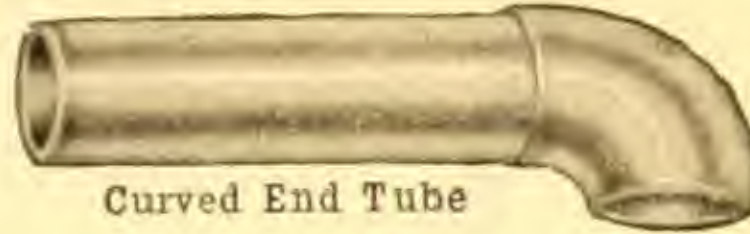
Standard Tube



Split Tube



Crossover Tube



Curved End Tube



Floor Tube

PRICES, per 100—FOR TUBES UP TO AND INCLUDING 24 INCHES LONG

INSIDE AND OUTSIDE DIMENSIONS OF TUBES IN INCHES														
Length Under Head In.	1x1/2	1 1/2x2	2x2 1/2	2 1/2x3 1/2	3x3 1/2	3 1/2x4 1/2	4x4 1/2	4 1/2x5 1/2	5x5 1/2	5 1/2x6 1/2	6x6 1/2	6 1/2x7 1/2	7x7 1/2	7 1/2x8 1/2
1/2	\$1.0	\$2.0												
1	1.7	2.1	\$2.7	\$4.0	\$6.0	\$10.0								
1 1/2	1.8	2.2	3.8	4.6	7.0	11.2								
2	1.9	2.4	3.0	5.2	8.0	12.5								
2 1/2	2.1	2.7	3.3	5.8	9.0	13.8	\$19.0	\$25.5	\$34.0	\$46.0	\$59.0	\$74.0	\$92.0	\$115.0
3	2.3	3.0	3.7	6.5	10.0	15.0	21.0	28.0	37.0	50.0	64.0	80.0	100.0	125.0
4	3.0	4.0	4.8	8.0	11.6	16.8	24.0	32.0	44.5	63.0	83.5	109.0	145.0	175.0
5	3.9	5.0	6.0	9.5	13.2	18.6	27.2	36.0	52.0	76.0	103.0	138.0	190.0	225.0
6	5.0	6.0	7.2	11.0	14.8	20.4	30.6	40.5	60.0	90.0	122.5	167.0	238.0	275.0
8	9.0	10.5	13.0	14.0	18.0	24.0	37.6	49.0	75.0	116.0	161.5	225.0	325.0	375.0
10	16.7	18.6	21.5	25.0	29.0	37.5	45.0	58.0	90.0	143.0	200.5	283.0	415.0	475.0
12	24.4	26.7	30.0	34.0	39.0	50.0	70.0	102.5	160.0	170.0	240.0	342.0	505.0	575.0
14	32.1	34.8	38.5	43.0	49.2	62.5	87.0	123.5	190.0	280.0	400.0	560.0	595.0	680.0
16	39.8	42.9	47.0	52.0	59.4	75.0	104.0	144.5	220.0	320.0	452.0	624.0	820.0	1020.0
18	47.5	51.0	55.5	61.0	69.6	87.5	121.0	166.0	250.0	360.0	504.0	688.0	890.0	1115.0
20	55.2	59.1	64.0	70.0	79.8	100.0	138.0	187.5	280.0	400.0	556.0	752.0	960.0	1210.0
24	70.0	75.3	81.0	88.0	100.0	125.0	172.0	230.0	340.0	480.0	660.0	880.0	1100.0	1400.0

## STANDARD PACKAGE QUANTITIES AND WEIGHTS PER STANDARD PACKAGE

INSIDE AND OUTSIDE DIMENSIONS OF TUBES IN INCHES																		
Length Under Head In.	1x1 1/2		1 1/2x2		2x2 1/2		2 1/2x3 1/2		3x3 1/2		3 1/2x4 1/2		4x4 1/2		4 1/2x5 1/2		5x5 1/2	
	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.
1/2	15000	375	12500	375														
1	11000	375	9500	375	8500	360	4300	380	3700	330	2000	350						
1 1/2	9000	375	8000	375	7500	360	3200	375	2500	320	1500	360						
2	7000	375	7000	370	5000	355	2300	355	1800	310	1100	345						
2 1/2	6000	360	5000	350	4000	350	2000	325	1500	295	900	330	525	320	350	325	250	380
3	5200	340	3800	340	2700	340	1800	320	1250	285	750	315	425	310	300	315	225	370
4	3900	315	2900	340	2000	335	1450	325	850	250	600	300	360	310	250	305	200	360
5	3500	340	2500	340	1700	340	1200	320	700	255	500	290	325	305	225	305	175	340
6	3200	350	2000	335	1500	340	1000	305	600	255	400	280	250	300	180	305	150	320
8	2200	340	1600	340	1200	335	700	275	450	245	325	290	180	290	140	300	100	300
10	1700	335	1200	320	1000	335	500	255	350	240	245	270	140	265	110	300	80	290
12	1200	340	1000	305	800	340	375	220	325	240	190	255	120	265	90	280	70	280
14	1000	535	800	200	700	320	310	215	250	230	150	230	100	255	75	275	90	260
16	800	340	700	300	550	300	250	205	185	205	140	230	85	175	65	265	60	255
18	500	340	450	200	475	250	200	205	160	200	110	210	70	235	55	250	50	250
20	450	340	400	290	300	270	160	175	125	180	85	195	55	215	40	220	50	240
24	400	340	400	300	300	260	160	195	125	210	85	215	55	240	40	250	50	250

For tubes larger than 13 1/4 x 24 inches, 50 is a standard package.

To obtain list price of floor, curved and curved end, split and cross-over tubes, multiply as follows: i. e.

Solid floor tubes. . . . . multiply list by 3  
 Split floor tubes. . . . . multiply list by 6  
 Headless tubes above 8 in. long. . . . . multiply list by 4  
 Headless tubes 8 inches long and under, same list  
 as standard tubes . . . . .  
 Curved and curved end tubes . . . . . multiply list by 3  
 Split regular tubes . . . . . multiply list by 10  
 Cross-over split tubes . . . . . multiply list by 12  
 Cross-over solid tubes . . . . . multiply list by 6

Add 50 per cent to list for glazed tubes.

For list price on these tubes add 3 in. to length of standard tubes.

On these tubes measurements are to be computed over all.

On these tubes measurements are to be computed under head.

On these tubes measurements are to be computed between heads.



## CONSTRUCTION TOOLS

## WOOD POLE SUPPORTS

## Jenney Pattern

For wooden poles, made of select hard wood, heavily bolted and braced with pole rest of crucible steel, making a very strong and satisfactory support.

Trade No.	Mfrs. No.	Length Feet	Size of Support, In.	Wt. Lbs.	Price Each
84264	842	6	2 x 3	39	\$16.50
84265	843	7	2½ x 3½	57	19.00
84266	844	8	2½ x 3½	62	20.00

## Mule Pattern

Made of slightly tapered round Wash. fir with wrought steel fork and pike, light, very strong and durable.

Trade No.	Mfrs. No.	Length Feet	Diam. of Handle In.	Wt. Lbs.	Price Each
84267	845	6	3½	23	\$13.00
84268	846	7	4½	26	15.00
84269	847	8	4½	29	17.00

## Standard Deadman, Western Electric Pattern

Made of oak with heavy wrought steel fork and pike, for very heavy work.

Trade No.	Mfrs. No.	Length Feet	Size of Fork, In.	Wt. Lbs.	Price Each
84270	848	8	4x2	29	24.00

## POST HOLE AUGERS

Trade No.	Mfrs. No.	Size of Auger, In.	Length of Stem, Ft.	Wt. Lbs.	Price Each
84271	885	6	3½	5	\$4.00
84272	886	8	3½	5	4.00
84273	887	10	3½	6	4.00
84274	888	12	5	13	14.50
84275	889	14	5	14	16.00

## POST HOLE SPOONS—1⅞-INCH HANDLE

Steel scoops with long or short straps and A No. 1 maple handle.

## Improved Pattern

Trade No.	Mfrs. No.	Length of Handle, Ft.	Size of Strap, In.	Wt., Lbs. per Doz.	Price Each
84276	856	7	9	105	\$6.00
84277	857	8	9	115	6.50
84278	858	9	9	125	7.00
84279	859	7	22	115	6.50
84280	860	8	22	125	7.00
84281	861	9	22	135	7.50
84282	862	10	22	145	8.00

## POST HOLE SHOVELS—1⅞-INCH HANDLE

Genuine crucible steel shovels with A No. 1 maple handle.

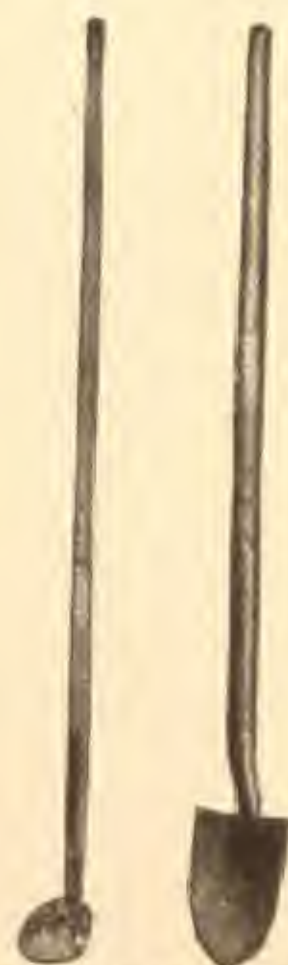
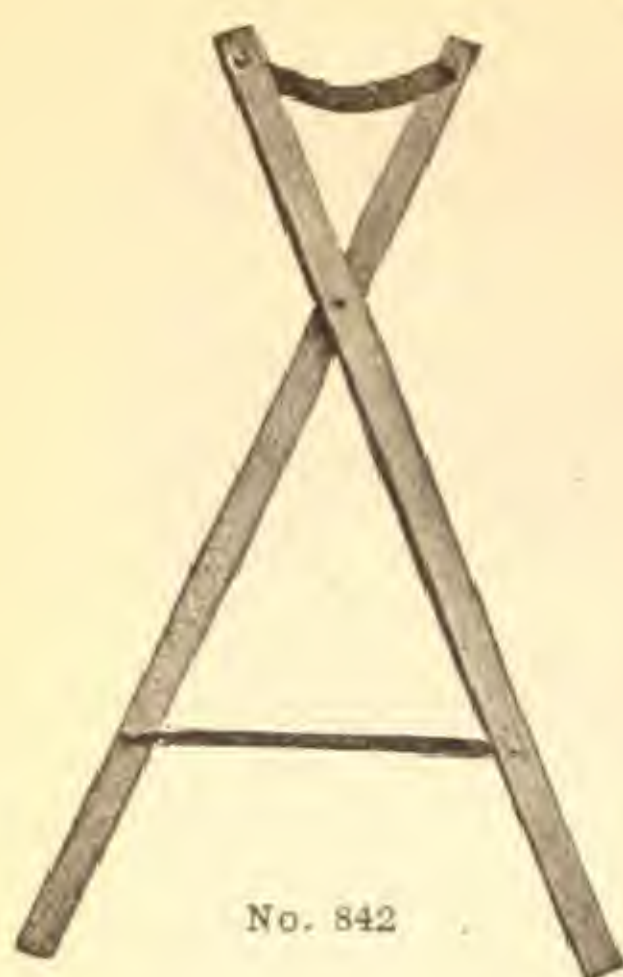
## Straight Handle

Trade No.	Mfrs. No.	Length of Handle, Ft.	Size of Blade, In.	Wt. Lbs.	Price Each
84283	863	6	9	85	5.50
84284	864	7	9	95	6.00
84285	865	8	9	105	6.50
84286	866	6	22	90	6.00
84287	867	7	22	100	6.50
84288	868	8	22	110	7.00
84289	869	9	22	115	7.50

## Crooked Handle

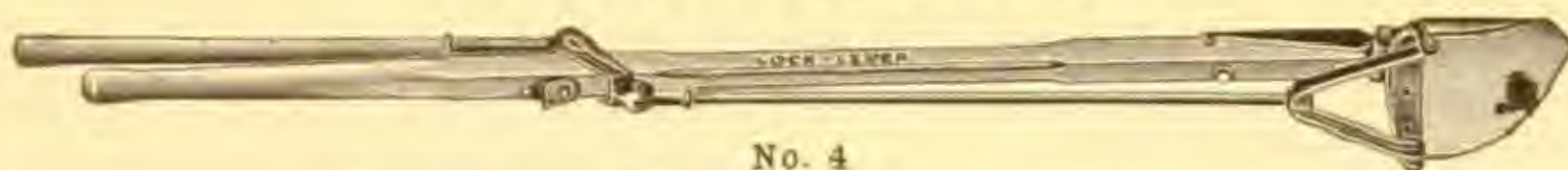
Trade No.	Mfrs. No.	Length of Handle, Ft.	Size of Blade, In.	Wt. Lbs.	Price Each
84290	870	6	9	85	5.50
84291	871	7	9	95	6.00
84292	872	8	9	105	6.50
84293	873	6	22	90	6.00
84294	874	7	22	100	6.50
84295	875	8	22	110	7.00

Shovels and spoons furnished with any length handles of either ash or hickory if desired.





## CONSTRUCTION TOOLS



No. 4

### LOCK-LEVER DIGGERS

The Lock-Lever is an automatic self-lock, and locks the blade at right angles, so that both hands are used in lifting the ground out of the hole.

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
052937	4	Digs hole 4 feet deep	14	\$6.50
052938	5	Digs hole 5 feet deep	18	8.00
052939	6	Digs hole 6 feet deep	20	9.00

### POST HOLE DIGGERS

Made of high grade steel with fine hardwood handles.

Trade No.	Mfrs. No.	Length of Handle Feet	Size of Blade Inches	Wt., Lbs. per Doz.	Price per Doz.
87200	890	4	9	110	\$24.00
87201	891	7	9	130	30.00

### IWAN'S PATENT POST HOLE AUGERS

Trade No.	Mfrs. No.	Diam. Inches	Length of Stem Feet	Price Each
045264	396I	8	4	\$5.00
045265	396C	10	4	6.00
045266	396E	12	6	16.00
045267	396G	14	6	20.00

### ADJUSTABLE WOOD HANDLES FOR POST HOLE AUGERS

Trade No.	Mfrs. No.	Description	Price Each
045271	398	For post hole auger	\$2.50

### PLAIN BACK SHOVELS

"D" Handle, Square Point

Blade 9 inches wide, 11 $\frac{3}{4}$  inches long.

Trade No.	Mfrs. No.	Description	Wt., Lbs. per Doz.	Price per Doz.
87243	877	Size 2, XX grade	60	\$24.00
87244	878	Size 2, X grade	60	19.00

"D" Handle, Round Point

Blade 9 $\frac{1}{4}$  inches wide, 12 inches long.

87245	879	Size 2, XX grade	60	24.00
87246	880	Size 2, X grade	60	19.00

### RIVETED OR BACK STRAP SHOVELS

"D" Handle, Round Point

Blade 9 $\frac{1}{4}$  inches wide, 12 inches long.

87247	881	Size 2, XX grade	60	23.00
87248	882	Size 2, X grade	60	17.50

### METAL POLE SUPPORTS

Jenney Pattern

Trade No.	Mfrs. No.	Length Feet	Price Each
052950	842	6	\$7.50
052951	843	7	8.25
052952	844	8	9.00

Mule Pattern

052953	845	6	5.00
052954	846	7	5.75
052955	847	8	7.00



No. 890



No. 396



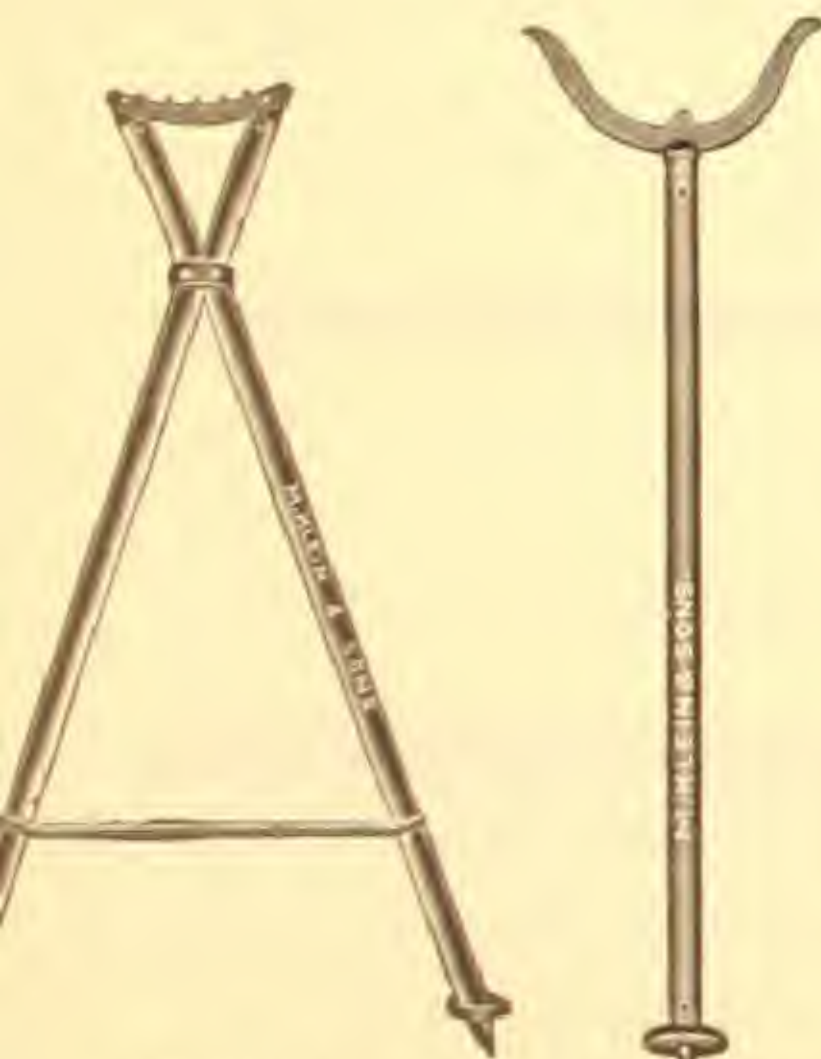
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No. 877



No. 879



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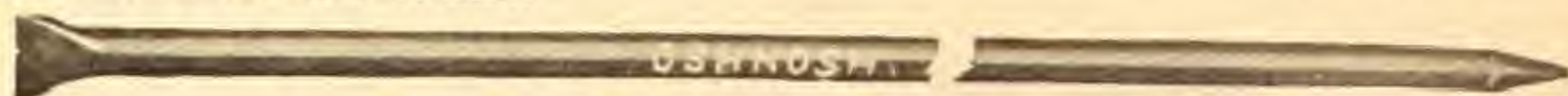
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## CONSTRUCTION TOOLS

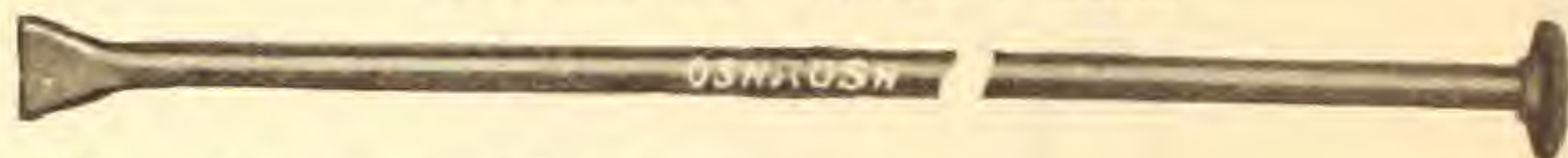
## CROW AND DIGGING BARS

Bars are made of hammered crucible tool steel, very stiff and strong. Any special size or style of bars not listed can be had.



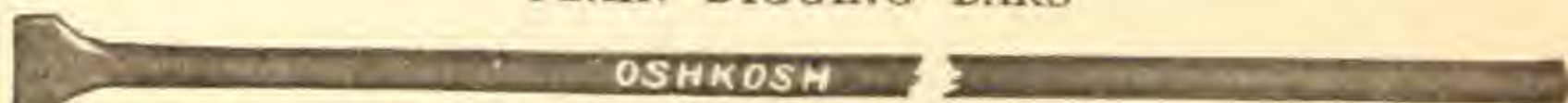
Trade No.	Mfrs. No.	Description	Weight Lbs.	Price Each
84833	1061	1-inch octagon, 7 feet long	20	\$10.50
84846	1064	1 $\frac{1}{8}$ -inch octagon, 7 feet long	26	13.50
84834	1065	1 $\frac{1}{8}$ -inch octagon, 8 feet long	30	15.00

## TAMPING AND DIGGING BARS



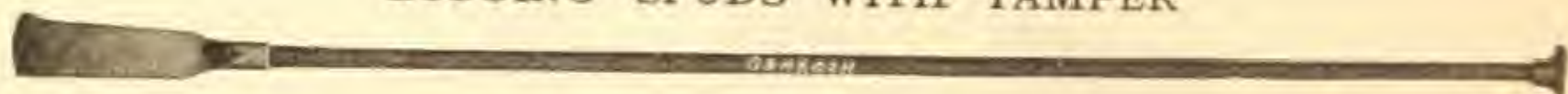
84836	1071	1-inch octagon, 7 feet long	20	12.50
84837	1075	1 $\frac{1}{8}$ -inch octagon, 8 feet long	30	16.50
84847	1074	1 $\frac{1}{8}$ -inch octagon, 7 feet long	26	15.00

## PLAIN DIGGING BARS



84844	1081	1-inch round, 7 feet long	10	6.00
84845	1085	1 $\frac{1}{8}$ -inch round, 8 feet long	28	8.00

## DIGGING SPUDS WITH TAMPER



Handles are of crucible steel tubing made especially for this purpose. The blade and tamper are shrunk and riveted onto the handle, the blade and socket being made of one piece.

84838	852	9 feet long, with steel tube handle	20	10.00
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## LOY OR SLICK



The most useful construction tool made for digging post holes. The blade is of crucible steel 4x $\frac{1}{2}$  inches. It is burned onto the handle and held by large rivets. The blade being off to one side gives great leverage when prying.

84839	853	With 8-foot wood handle	18	9.50
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TAMPING BARS  
With Heavy Iron Shoe

84840	854	With 7-foot wood handle	13	6.00
84841	855	With 8-foot wood handle	15	6.50

## CEMENT OR DIRT RAMMERS



84842	33	Round cast iron head, 6 inches in diameter, 4 $\frac{1}{2}$ -foot hard-wood handle	14	6.00
84843	34	Square cast iron head, 6 inches in diameter, 4 $\frac{1}{2}$ -foot hard-wood handle	14	7.00



## CONSTRUCTION TOOLS

### PLAIN PIKE POLES

Pike poles are made of Douglas or Western fir.

#### Standard Size, 2-inch Handle

Trade No.	Mfrs. No.	Length Feet	Wt., Lbs. per Doz.	Price Each
84775	805	10	75	\$4.50
84776	806	12	95	5.00
84777	807	14	115	5.50
84778	808	16	135	6.00

#### Extra Heavy Size, Commercial Pattern

With handles of 2½-inch diameter tapered to 2 inches at both ends.

84784	818	12	150	5.50
84785	819	14	165	6.25
84786	820	16	185	7.25
84787	821	18	215	8.00
84788	822	20	240	9.00

### CARRYING OR LUG HOOKS

Made with crucible steel chisel point hooks with malleable clasps and swivels to permit turning.

#### Regular Pattern

Trade No.	Mfrs. No.	Length Feet	Diam. of Handle, In.	Wt., Lbs. per Doz.	Price Each
84791	295	4	2½	85	\$6.00
84792	296	4½	2½	90	6.50
84793	297	5	2½	95	7.00

#### Extra Heavy, with Steel Swivels

84794	298	5	3	145	8.75
84795	299	6	3	155	9.50
84796	300	7	3	165	10.25

#### Western Union Pattern

With handle 3 inches square in middle, swivel bolt through the handle.

84797	800	4	...	135	8.50
84798	801	5	...	150	9.00
84799	802	6	...	160	9.50
84800	803	7	...	175	10.25
84801	804	8	...	190	12.25

### CANT HOOKS

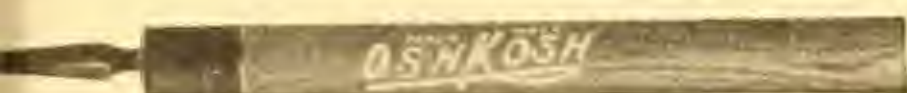
With malleable iron clasp and toe ring, crucible cast steel duckbill hook.

#### With Maple Handle

Trade No.	Mfrs. No.	Length Feet	Diam. of Handle, In.	Wt., Lbs. per Doz.	Price Each
84802	188	4	2½	95	\$5.50
84803	189	4½	2½	100	6.00

#### With Hickory Handle

84804	199	4	2½	95	6.50
84805	200	4½	2½	100	7.00



No. 805



No. 295



No. 800



No. 188



## WOOD HANDLES FOR CONSTRUCTION TOOLS

## FOR CARRYING OR LUG HOOKS—MAPLE

Trade No.	Mfrs. No.	Regular		Wt., Lbs. per Doz.	Price Each
		Diam. Inches	Length Feet		
86096	*593	2½	4	40	\$2.00
86097	*594	2½	4½	45	2.25
86098	*595	2½	5	50	2.50
Extra Heavy					
86099	†963	3	5	65	3.50
86100	†964	3	6	75	4.00
86101	†965	3	7	85	6.00
Western Union Pattern					
86102	†952	3	4	55	6.00
86103	†966	3	5	70	7.00
86104	†967	3	6	95	8.00
86105	†968	3	7	120	12.50
86106	†969	3	8	145	15.00
FOR CANT HOOKS					
86107	*544	2½	4	40	*1.50
86108	*545	2½	4½	45	*1.75
86109	†561	2½	4	40	†2.50
86110	†562	2½	4½	45	†2.75
86111	†575	2½	4	50	†2.50
86112	†576	2½	4½	55	†3.00

\*Select maple. †Second growth maple. ‡Select hickory.

## FOR PIKE POLES—WASHINGTON FIR

Regular Size					
86113	970	2	10	80	3.00
86114	971	2	12	105	3.50
86115	972	2	14	125	4.00
86116	973	2	16	140	4.50

## Western Electric Pattern—Tapered

86122	982	2½	12	140	4.00
86123	983	2½	14	150	4.50
86124	984	2½	16	170	5.00
86125	985	2½	18	200	5.50
86126	986	2½	20	225	6.00

## FOR SPOONS—A No. 1 MAPLE

86129	993	1⅞	7	50	3.50
86130	994	1⅞	8	60	4.00
86131	995	1⅞	9	70	4.50
86132	996	1⅞	10	85	5.00

## FOR SHOVELS—A No. 1 MAPLE

Straight					
86133	997	1⅞	6	60	3.50
86134	998	1⅞	7	65	4.00
86135	999	1⅞	8	70	4.50
Crooked					
86136	1000	1⅞	8	65	7.50

## FOR TREE TRIMMERS

86137	722	2	12	80	3.50
86138	723	2	14	100	3.75
86139	724	2	16	120	4.60
86140	725	2	18	140	5.25

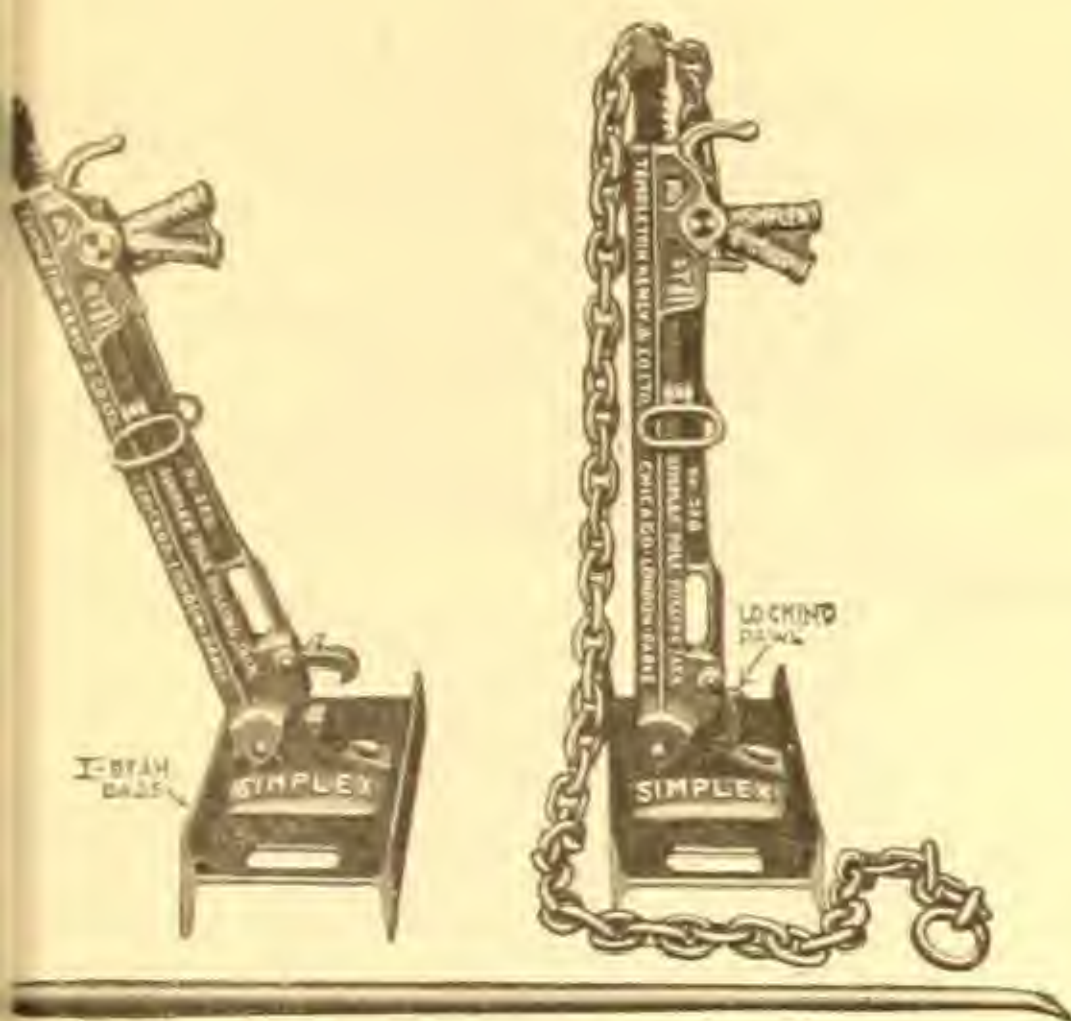
## MISCELLANEOUS HANDLES

Trade No.	Mfrs. No.	Description	Wt., Lbs. per Doz.	Price Each
86141	1001	8-foot loy or slick handle, maple	100	\$3.50
86142	1002	7-foot tamping bar handle, maple	90	2.50
86143	1003	8-foot tamping bar handle, maple	100	3.00

Can furnish a complete line of pick, sledge and all construction tool handles of hickory, oak ash and maple. Prices on application.



## SIMPLEX JACKS



No. 328 Pole Pulling Jack



No. 22 Cable Reel Jack

### POLE PULLING JACKS

#### No. 328

No. 328 Pole Pulling Jack is designed especially for pulling and straightening telephone, telegraph, electric light and trolley poles—every size and length—any depth of ground, without digging round poles or breaking up pavement or curbing. One or two men can pull and straighten poles, pull butts, move loaded poles and from one location to another—easier, quicker and safer than accomplished by other methods. Has pivoted base, enabling jack to follow the angle of the pole. Single-acting, automatic in lowering and raising. Equipped with 8-foot steel chain. Five-foot steel bar, two-foot steel I-beam base.

Trade No.	Mfrs. No.	Cap. Tons	Lift In.	Height In.	Wt. Lbs.	Price Each
4755	328	15	23	39	90	\$70.00

#### No. 318

No. 318 is designed for exactly the same purpose and furnished with the same equipment. It differs from the No. 328 in mechanism, being of the tripping type.

12551	318	15	23	39	90	62.50
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### CABLE REEL JACKS

#### No. 22

No. 22 Cable Reel Jack is a sturdy, powerful tool designed to safely handle cable reels four to eight feet in diameter. Side foot on bar prevents jack tripping over and endangering workmen and cable. Strongly braced on three sides, not necessary to build up foundation under base, as jack bar will not bend under full capacity of jack.

Trade No.	Mfrs. No.	Cap. Tons	Lift In.	Height In.	Wt. Lbs.	Price Each
12552	22	10	13	34½	98	\$65.00



## CONSTRUCTION TOOLS



No. 306 Dinkey



No. 400 Double-deck Reel

**DICKE'S LIGHT POLE DINKEYS**

A strongly built truck, especially useful for handling poles which are to be set in places that cannot be reached with team. One man can easily handle the heaviest pole with this truck.

The woodwork is of seasoned oak and the wheels Sarven patent, 2 feet 8 inches high, with sixteen  $1\frac{3}{8}$ -inch spokes. The tires are  $2\frac{1}{2} \times 1\frac{1}{4}$ -inch, bearings 8 inches long, axles  $1\frac{3}{8}$  inches, truck  $32\frac{1}{2}$  inches. The entire dinkey is painted one coat before assembling and two coats afterward.

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
202534	306	Dicke's light pole dinkey	165	\$55.40

**PAY-OUT REELS**

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
202535	400	Dicke's double-deck reel on barrow	110	\$33.50

**FOLDING TAKE-UP-REELS**

An invention that will absolutely save its cost on the first big job attempted. It makes a neater coil and throws it off in one fourth the time taken by the old reel. The reel part collapses and automatically throws off the coil at the same time and in an instant is ready for another coil. The frame, made of heavy hardwood, is strong and heavily re-enforced throughout and folds up like a hinge.

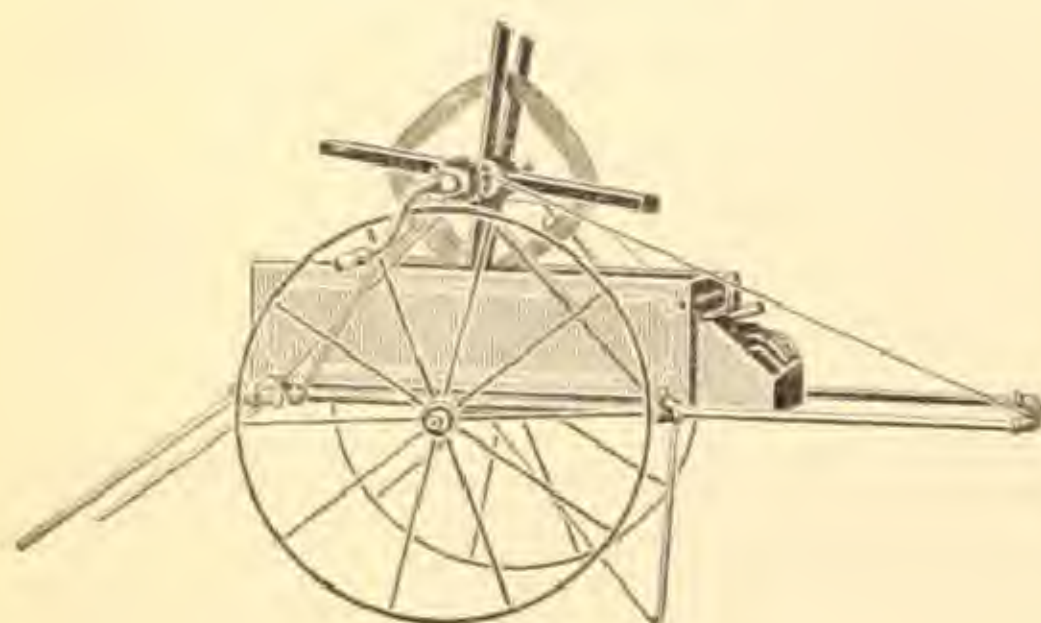
Trade No.	Description	Wt. Lbs.	Price Each
202536	For 12-inch coil	39	\$20.85
202537	For 18-inch coil	40	21.45
202538	For 21-inch coil	41	21.90
202539	For 24-inch coil	42	22.46
202540	Improved take-up reel	65	31.50

**LINEMAN'S CARTS**

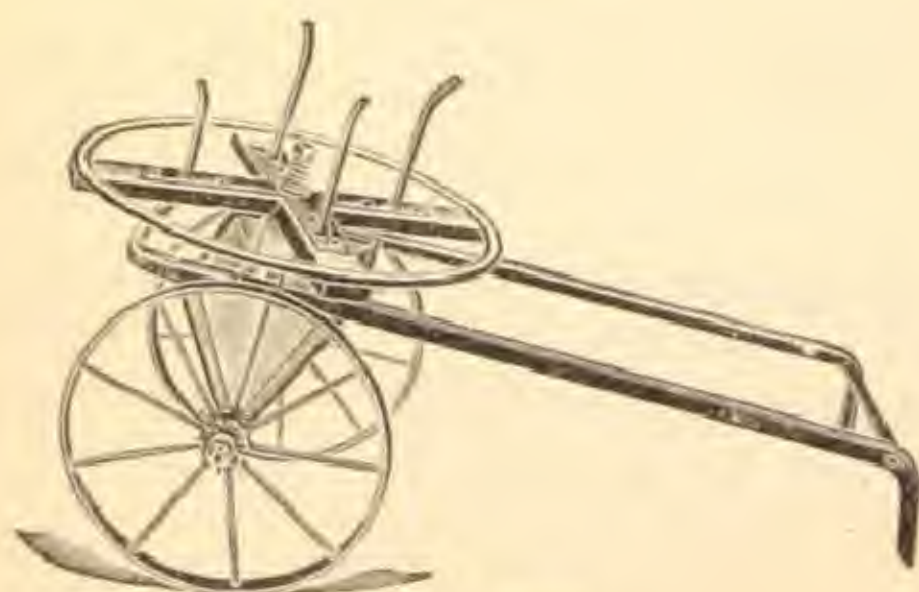
Trade No.	Mfrs. No.	Description	Price Each
202541	160	With reel attached	\$36.00
202542	...	Wasson single reel and cart	33.60
202543	...	Wasson double reel and cart	51.00
202544	...	Wasson single reel, less cart, with axle and tension	16.85
202545	...	Wasson cart, less reel with axle and tension	22.46



Folding Take-up Reel



Linemen's Cart



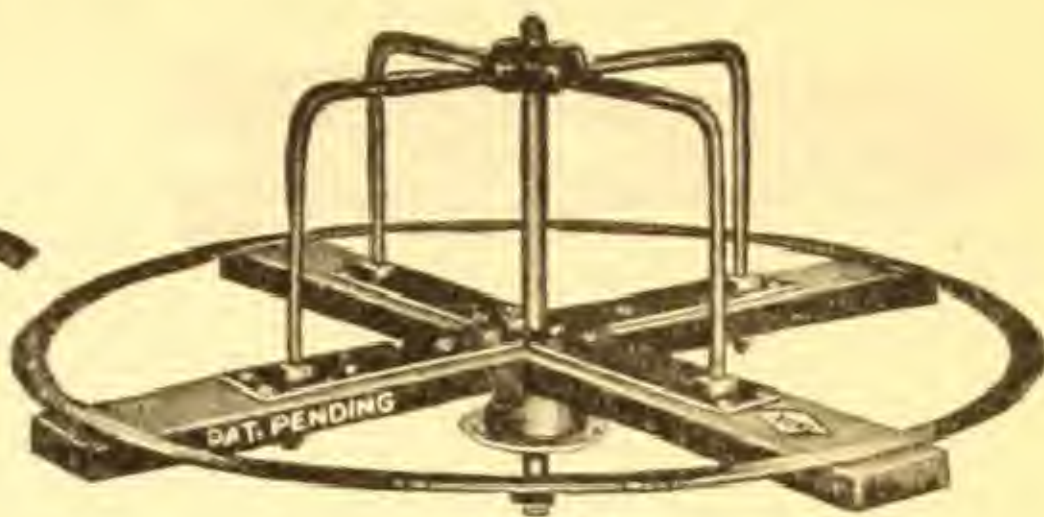
Wasson Reel



## CONSTRUCTION TOOLS



No. 401



No. 402



No. 409

### PAY OUT REELS

No. 402 improved wagon reel. Can be bolted on any wagon box, platform or fence post for putting up wire fences.

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
202556	401	Improved reel	95	\$24.00
202557	402	Improved wagon reel	37	18.75

### TOOL CARTS



No. 408

DIMENSIONS.—Main box, 6 feet 2 inches by 30 inches deep. Lower tool box, 33x30x8½ inches deep.

Side tool box, 5 compartments, 5 ft. 10 inches x 6 inches wide, 10 inches deep.

Front tool box, 30 x 6 x 10 inches.

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
202558	409	Tool cart	920	\$347.10

### TRACK DOLLIES

With the use of one rail, two men can move poles to any desired place. The wheels are iron and fit standard rails. This tool can also be used in pairs to move a load of poles by laying two across and piling any amount desired.

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
202559	408	Track dolly, 4x2x15 in	225	\$71.30



No. 403

### JUMPER WIRE REELS

The jumper wire reel was especially designed for use in telephone exchanges.

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
202560	403	Jumper wire reel	40	\$31.75



## PLIERS

## LINEMEN'S SIDE CUTTING PLIERS



No. 201-5 to No. 201-10

## Diamond Special—For Bare Wire



No. 212-6 to No. 212-9

Trade No.	Mfrs. No.	Length Inches	Price Each
044901	201-5	5	\$7.00
044902	201-6	6	8.00
044903	201-7	7	9.00
044904	201-8	8	10.00
044905	201-9	9	12.00

## With Sleeve-Joint Twister



No. 202-5

121625	212-6	6	9.00
044913	212-7	7	10.00
044914	212-8	8	12.00

## OBLIQUE CUTTING PLIERS



No. 235-5 1/2

Trade No.	Mfrs. No.	Length Inches	Price Each
045120	202-5	5	\$5.50
121624	202-5 1/2	5 1/2	6.00
045121	202-6	6	6.50

## DIAGONAL PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
121622	235-5 1/2	5 1/2	\$6.50

## END CUTTING PLIERS



No. 232-5 1/2

Trade No.	Mfrs. No.	Length Inches	Price Each
121602	232-5 1/2	5 1/2	\$6.50



## PLIERS



No. 313-5

### HEAT COIL PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
107930	313-5	5	\$6.00



No. 305-5

### LONG FLAT NOSE PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
044727	305-6	6	\$5.50



No. 206-5

### LONG FLAT NOSE SIDE CUTTING PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
044729	206-6	6	\$6.50



No. 304-5

### LONG DUCKBILL PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
044731	304-6	6	\$5.50



No. 205-5

### LONG DUCKBILL, SIDE CUTTING PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
044733	205-6	6	\$6.50



No. 2400-6

### RUBBER INSULATING SLEEVES

Trade No.	Mfrs. No.	For Pliers Size, In.	Price per Pair
045146	2400-6	6	\$1.00
045147	2400-7	7	1.20
045148	2400-8	8	1.40



No. 5107



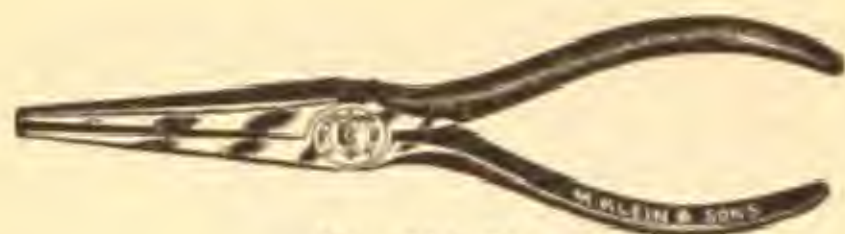
No. 5112

### LEATHER PLIER POCKETS

Trade No.	Mfrs. No.	Description	Price Each
045149	5107	{ To slip on tool belt }	\$2.00
045150	5112		2.00



## PLIERS



No. 311-5½

## FLAT NOSE SPRING-ADJUSTING PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
121608	311-5½	5½	\$6.50



No. 301-5

## LONG NOSE PLIERS, WITHOUT CUTTERS

Trade No.	Mfrs. No.	Length Inches	Price Each
056975	301-5	5	\$5.00
044720	301-6	6	5.50



No. 303-6

## LONG NEEDLE NOSE PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
107928	303-6	6	\$5.50



No. 203-5

## LONG NOSE SIDE CUTTING PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
056976	203-5	5	\$6.00
044722	203-6	6	6.50



No. 302-6

## LONG CURVED NOSE PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
044726	302-6	6	\$6.50



No. 312-5½

## ROUND NOSE PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
121607	312-5½	5½	\$6.50



## PLIERS AND WIRE CUTTERS



No. 50-4



No. 3006



Goodridge Pliers



No. 404-6



No. 401-7



No. 631



No. 636



No. 045151



No. 063619

### UTICA PLIERS

Trade No.	Mrs. No.	Length Inches	Price Each
044919	50-4	4	\$4.00
044920	50-5	5	5.00
044921	50-6	6	6.00
044922	50-7	7	7.00
044923	50-8	8	8.00

### MICA INSULATED HANDLE PLIERS

044933	3006	6	8.00
044934	3007	7	10.00
044935	3008	8	12.00

Insulating covering will not flake off. Tested to insulate against 2500 volts.

### GOODRIDGE WIRE SKINNING PLIERS

This tool combines a pair of side cutting pliers and a tool for stripping the insulation from No. 14 B. & S. single and duplex wire and all sizes of lamp cord.

42651	227-8	8	
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### BURNER PLIERS

121594	404-6	6	3.00
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### GAS PLIERS

Trade No.	Mrs. No.	Length Inches	Finish	Price Each
121593	401-7	7	Plain	\$3.00
045137	401-8	8	Plain	3.50
045138	401-10	10	Plain	4.00
045139	401-12	12	Plain	5.00

### COMBINATION GAS PLIERS

045140	631	6	Plain	1.25
045141	632	6	Nickeled	1.40
045142	633A	8	Plain	1.60
045143	633	8	Nickeled	1.70
045144	634A	10	Plain	2.20
045145	634	10	Nickeled	2.40

### TUBE AND CARBON CUTTERS

The adjustable porcelain tube cutter is adapted for severing all the different sizes of porcelain tubes commonly used in ordinary construction work. Weight, 14 ounces.

#### Adjustable

018840	636	Nickel-plated	5.00
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#### Non-adjustable

The non-adjustable porcelain tube cutter is the same as the above, with the exception that it will cut only one size porcelain tubes. In ordering, specify size of tube. Can be made to cut  $\frac{5}{16}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$  or  $\frac{5}{8}$ -inch tube.

018841	636A	Nickel-plated	3.00
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### NEW EASY WIRE CUTTERS

Trade No.	Mrs. No.	Length Inches	Cuts Inches	Price Each
045151	1	24 $\frac{1}{2}$	$\frac{3}{8}$	\$7.50
045152	2	30	$\frac{1}{2}$	10.00
045153	3	36	$\frac{5}{8}$	13.50

### BOSTON WIRE CUTTERS

#### With Insulated Handles

044924	0	18 $\frac{1}{2}$	$\frac{5}{16}$	8.25
063619	1	24 $\frac{1}{2}$	$\frac{3}{4}$	9.75
063620	2	30 $\frac{1}{2}$	1 $\frac{1}{8}$	13.00
063621	3	36 $\frac{1}{4}$	1 $\frac{1}{2}$	18.00



## SPLICING CLAMPS

Polished Heads and Black Handles



No. 102-3

Trade No.	Mfrs. No.	Length Inches	Price Each
045029	102-3	10 $\frac{3}{4}$	\$9.00

For Nos. 6, 8, 9, 10, 12 and 14 iron wire; Nos. 4, 6, 8, 9, 10 and 12 copper wire.



No. 102-5

045030	102-5	10 $\frac{3}{4}$	9.00
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For Nos. 2, 4, 6, 8, 9, 10 and 12 copper wire; Nos. 4, 6, 8, 9, 10, 12 and 14 iron wire.



No. 105-12

045031	105-12	10 $\frac{3}{4}$	9.00
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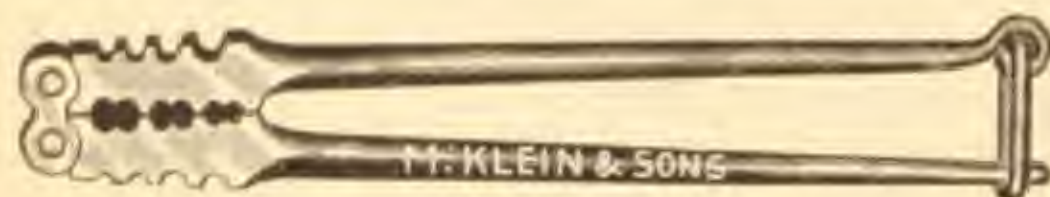
For Nos. 6, 8, 9, 10, 12, 14, 16 and 17 B. & S. gauge copper sleeves; Nos. 8, 9, 10, 12, 14, 16 and 18 B. W. G.



No. 132-3

044838	132-3	10 $\frac{3}{4}$	11.00
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Five holes for Nos. 6, 8, 9, 10, 12 and 14 iron wire; Nos. 4, 6, 8, 9, 10 and 12 copper wire; Nos. 8, 9, 10, 12 and 14 B. & S. gauge copper sleeves; Nos. 10, 12, 14 and 16 B. W. gauge iron sleeves.



No. 132-2

044840	132-2	9	10.00
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Four holes for Nos. 8, 9, 10, 12 and 14 iron wire; Nos. 6, 8, 9, 10 and 12 copper wire; Nos. 10, 12 and 14 B. & S. gauge copper sleeves; Nos. 12, 14 and 16 B. W. gauge iron sleeves.



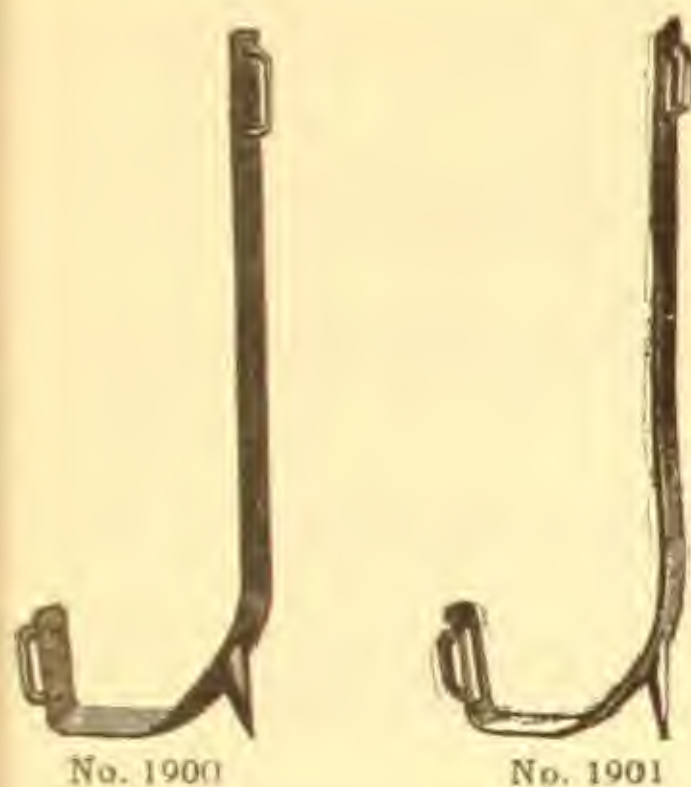
No. 132-5

094709	132-5	10 $\frac{3}{4}$	14.00
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For Nos. 6, 8, 9, 10, 12, 14 and 16 iron wire, or Nos. 4, 6, 8, 9, 10, 12 and 14 copper wire; five double holes for twisting sleeve joints; Nos. 6, 8, 9, 10, 12 and 14 B. & S. gauge copper sleeves, or Nos. 8, 9, 10, 12, 14 and 16 B. W. gauge iron sleeves.



## CLIMBERS AND BELTS



No. 1900

No. 1901

### EASTERN CLIMBERS

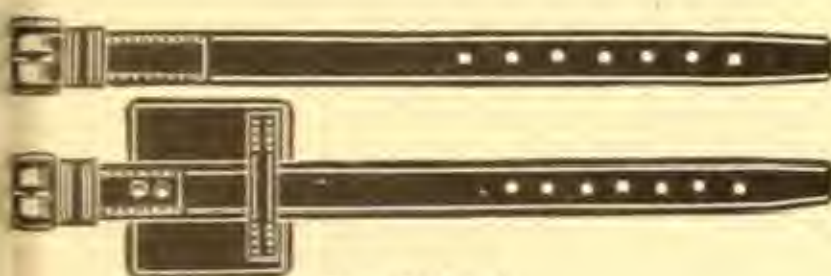
#### Without Straps

Trade No.	Mfrs. No.	Description	Price per Pr.
046099	1900	Riveted loop	\$12.00
046101	1903	Riveted loop, light weight	12.00
046102	1904	Riveted loop, Wood-pecker pattern	12.00
046103	1901	Punched loop	11.00

Nos. 1900, 1904 and 1901 made in lengths from 15 to 18 inches by ½-inch variations. Larger sizes furnished on special order.

No. 1903 made in lengths from 15 to 16½ inches by ½-inch variations.

No. 1904 is a little different from the No. 1900 type. The foot-rest is slightly more rounded.



No. 5301-1

### STRAPS FOR EASTERN CLIMBERS

Trade No.	Mfrs. No.	Description	Price per Set
046106	5301-1	Set consists of two upper straps, with 4x4 plain leather pads and two lower straps	\$11.00
046107	5301-2	With sheep-lined pads	12.00
046108	5301-3	With felt-lined pads	12.00
61134	5301-4	Straight strap without pad	4.50
61135	5301-5	Strap with plain pad	6.70



No. 8200



No. 5106

### PADS FOR EASTERN CLIMBERS

Trade No.	Mfrs. No.	Description	Price per Pr.
046100	8202	Plain leather, 4x4 in.	\$2.20
046109	8200	Sheep-lined, 4x4 in.	3.40
046110	8201	Felt-lined, 4x4 in.	3.40



No. 5111

### LEATHER POUCHES

Trade No.	Mfrs. No.	Description	Price Each
046111	5106	Weight, 6 ounces	\$2.40

Has loops for belt.

State for what size belt pouch is wanted.

### HIP POCKET TOOL CASES

Trade No.	Mfrs. No.	Size Inches	Price Each
046115	5111	5x7	\$2.40

### SAFETY TOOL BELTS

#### With Rings

Trade No.	Mfrs. No.	Description	Price Each
046113	5202	2¼ inches, single	\$13.00
046116	5204	3½ inches, single	16.00
046117	5205	2¼ inches, double	14.50

When ordering belts, state if wanted for 38, 40, 42, 44 or 46-inch waists. Larger sizes furnished at additional prices.



No. 5204



No. 5205



## LINEMEN'S GLOVES AND SWITCH HANDLE COVERS

## HYDRO RUBBER GLOVES, SLEEVES AND SWITCH HANDLE COVERS



Glove



Mitten



Linemen's Sleeve



Switch Handle Cover

In the production of Hydro seamless rubber products the first consideration has been to protect the wearer while handling or in contact with live wires.

Only new rubber, especially selected for its toughness and elasticity, together with the other ingredients necessary to make them tough and wear-resisting, are used in the manufacture of Hydro products. Every ingredient is electrically tested for its non-conducting qualities before being used.

Gloves are now made with special reinforcements between thumb and palm, a patented improvement where the wear is greatest.

Gloves are carefully inspected at each important point in their manufacture and every glove is electrically tested at the voltage for which it is built before it leaves the factory.

Gloves are guaranteed for a period of one year from date of manufacture against deterioration in stock. Rubber of any kind will deteriorate if carried in stock too long.

## ELECTRICIAN'S GLOVES

Sizes 9, 10, 11, 12

Trade No.	Volts	Length, Over All Inches	Price per Pair
202671	10000	12	\$5.70
202672	10000	15	7.10
202673	6000	12	4.30
202674	6000	15	5.70
202675	2000	12	3.60
202676	2000	15	4.30

## FOREFINGER MITTENS

Size 10 Only

202677	10000	12	5.70
202678	10000	14	7.10

## LINEMEN'S SLEEVES

Linemen's sleeves are to be worn over gloves when protection is wanted to shoulder. They reach from wrist to shoulder. Can also be furnished in lengths reaching to shoulder all in one piece without seams.

202679	19	7.10
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## SWITCH HANDLE COVERS

These covers are for use on switch handles and afford complete protection to the operator. Made with both or one end open in any length to 8 inches, inside diameter, 1½ inches.

Trade No.	Description	Price Each
202680	Covers as described	\$0.40

## LEATHER OR CANVAS GLOVES

To be worn over the rubber gloves as a protection against splinters and cuts in handling rough objects. Save wear and tear on rubber gloves. Made of best material over special patterns to fit snugly over the rubber gloves without wrinkling them.

Trade No.	Description	Price per Pair
202681	Leather gloves	\$2.85
202682	Canvas gloves	.60



## LINEMEN'S TOOL BELTS AND BAGS



No. 5308



No. 5250



No. 5252



No. 5303-1



No. 5101-15



No. 5108-20



No. 5102-12



No. 5206-1A

### BELT AND SAFETY STRAPS

The safety strap is  $1\frac{3}{4}$  inches wide, 6 feet long, and provided with strong snap at each end. Strap may be shortened or lengthened by adjusting buckle.

Trade No.	Mfrs. No.	Description	Price Each
055935	5206-1A	Belt and safety strap	\$25.00

State if tool belt is wanted for 38, 40, 42, 44 or 46-inch waist.

### COMBINED SAFETY AND JACK STRAPS

055933	5308	Size, $1\frac{3}{4}$ inches	16.00
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### SAFETY STRAPS

055936	5250	$1\frac{3}{4}$ in. x 6 ft., imperial snaps	12.00
055931	5251	$1\frac{3}{4}$ in. x 6 ft., roller snaps	14.00
055932	5253	2 in. x 6 ft., " "	16.50

### JACK OR VISE STRAPS

055930	5303-1	Size $1\frac{3}{4}$ in. x $5\frac{1}{2}$ ft.	7.00
055947	5302-2	Same, with snaps	8.00
055948	5303-3	Same, with clevis	8.00

### INSPECTORS' BLACK LEATHER TOOL BAGS

055937	5101-15	15x12 inches	33.00
055951	5101-18	18x12 inches	38.00
055938	5101-20	20x12 inches	42.00

### INSPECTORS' HARNESS LEATHER TOOL BAGS

Made entirely of black harness leather steel stud-shoulder straps combined with pad and hand strap.

055941	5108-20	Size, 8x20 inches	31.00
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### LINEMEN'S CANVAS TOOL BAGS, LEATHER BOTTOM

Trade No.	Mfrs. No.	Size Inches	Price Each
055942	5102-12	12	\$12.50
055949	5102-14	14	14.00
055943	5102-16	16	15.50
055944	5102-18	18	17.00
055945	5102-20	20	18.00
055950	5102-22	22	19.50
055946	5102-24	24	21.00



## LINEMEN'S TACKLE



No. 1802-30

TROUBLEMEN'S SELF-LOCKING  
BLOCKS

This set has steel blocks with a snap hook at each end for attaching grips.

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price per Set
063618	1802-30	Galvanized	2½	\$9 00

Furnished with 25 feet ¾-inch rope.  
Hook for above to fit insulation pin, each \$1 50

## HOWES' WIRE TOOLS

The swivel hook is steel, with an opening large enough to go over an insulator pin or other convenient object to which to anchor. The forward end has a locking device to hold the load at any distance.

It is arranged so that either a vise or grip can be attached.



No. 1702-20

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Price Each
045018	1702-20	Sgle. purchase	2	\$13 60
045019	1702-30	Dble. purchase	2½	15 10

## REPAIR LINKS

Trade No.	Mfrs. No.	Size Inches	Price Each
045285	71	5/8x2 x1½	\$0 10
045286	72	3/8x2½x1½	10

## MALLEABLE IRON PULLEY BLOCKS

FOR ¾-INCH ROPE, 2 -INCH SHELL

## With Eyes

Trade No.	Description	Price Each
045051	Single, one eye	\$0 44
045052	Single, two eyes	44
045053	Double, one eye	62
045054	Double, two eyes	62

## With Hook

Trade No.	Description	Price Each
045069	Single, one hook	\$0 86
045070	Single, hook and eye	86
045071	Double, one hook	1 02
045072	Double, hook and eye	1 02

FOR ½-INCH ROPE, 3-INCH SHELL

## With Eyes

Trade No.	Description	Price Each
045057	Single, one eye	\$1 04
045058	Single, two eyes	1 04
045059	Double, one eye	1 20
045060	Double, two eyes	1 20

## With Hook

Trade No.	Description	Price Each
045075	Single, one hook	\$1 72
045076	Single, hook and eye	1 72
045077	Double, one hook	1 80
045078	Double, hook and eye	1 80



No. 71



No. 045059



# PULLEY BLOCKS

## WOOD PULLEY BLOCKS

### With Hooks

Trade No.	Size Sheave Inches	Length Shell In.	No. of Sheaves	Size of Rope Inches	Price Each
202607	1 3/4 x 1 1/2 x 3/8	3	Single	3/8	\$0.70
202608	1 3/4 x 1 1/2 x 3/8	3	Double	3/8	1.34
202609	1 3/4 x 1 1/2 x 3/8	3	Triple	3/8	1.74
202610	2 x 1 1/2 x 3/8	3 1/2	Single	3/8	.74
202611	2 x 1 1/2 x 3/8	3 1/2	Double	3/8	1.44
202612	2 x 1 1/2 x 3/8	3 1/2	Triple	3/8	2.00
202613	2 1/4 x 5/8 x 3/8	4	Single	1/2	.84
202614	2 1/4 x 5/8 x 3/8	4	Double	1/2	1.60
202615	2 1/4 x 5/8 x 3/8	4	Triple	1/2	2.14
202616	3 x 3/4 x 3/8	5	Single	5/8	.90
202617	3 x 3/4 x 3/8	5	Double	5/8	1.74
202618	3 x 3/4 x 3/8	5	Triple	5/8	2.24
202619	3 1/2 x 1 x 1 1/2	6	Single	3/4	1.10
202620	3 1/2 x 1 x 1 1/2	6	Double	3/4	2.00
202621	3 1/2 x 1 x 1 1/2	6	Triple	3/4	2.90
202622	4 3/4 x 1 1/8 x 5/8	8	Single	1	1.64
202623	4 3/4 x 1 1/8 x 5/8	8	Double	1	2.84
202624	4 3/4 x 1 1/8 x 5/8	8	Triple	1	4.24

NOTE.—State if wanted with or without becket.

## STEEL TACKLE BLOCKS

### Iron Bushed

Trade No.	Diameter Sheaves Inches	Length Shell Inches	No. of Sheaves	Size of Rope Inches	Price Each Japanned
202625	1 3/4	3	Single	3/8	\$0.70
202626	1 3/4	3	Double	3/8	1.34
202627	1 3/4	3	Triple	3/8	1.74
202628	2 1/4	4	Single	1/2	.84
202629	2 1/4	4	Double	1/2	1.60
202630	2 1/4	4	Triple	1/2	2.14
202631	3	5	Single	5/8	.90
202632	3	5	Double	5/8	1.74
202633	3	5	Triple	5/8	2.24
202634	3 1/2	6	Single	3/4	1.10
202635	3 1/2	6	Double	3/4	2.00
202636	3 1/2	6	Triple	3/4	2.90
202637	4 1/4	7	Single	7/8	1.30
202638	4 1/4	7	Double	7/8	2.40
202639	4 1/4	7	Triple	7/8	3.50
202640	4 3/4	8	Single	1	1.64
202641	4 3/4	8	Double	1	2.84
202642	4 3/4	8	Triple	1	4.24

## HOLLOW SHELL STEEL BLOCKS

### Improved Roller Bushed

202643	1 3/4	3	Single	3/8	1.80
202644	1 3/4	3	Double	3/8	3.52
202645	1 3/4	3	Triple	3/8	5.02
202646	2 1/4	4	Single	1/2	1.86
202647	2 1/4	4	Double	1/2	3.66
202648	2 1/4	4	Triple	1/2	5.24
202649	3	5	Single	5/8	2.02
202650	3	5	Double	5/8	3.90
202651	3	5	Triple	5/8	5.46
202652	3 1/2	6	Single	3/4	2.46
202653	3 1/2	6	Double	3/4	4.56
202654	3 1/2	6	Triple	3/4	6.36
202655	4 1/4	7	Single	7/8	2.84
202656	4 1/4	7	Double	7/8	5.24
202657	4 1/4	7	Triple	7/8	7.04
202658	4 3/4	8	Single	1	3.66
202659	4 3/4	8	Double	1	6.60
202660	4 3/4	8	Triple	1	9.30

Prices of galvanized steel blocks on application.



Wood Pulley Block with Becket



Single with Becket

Double with Becket



Single with Becket

Double with Becket

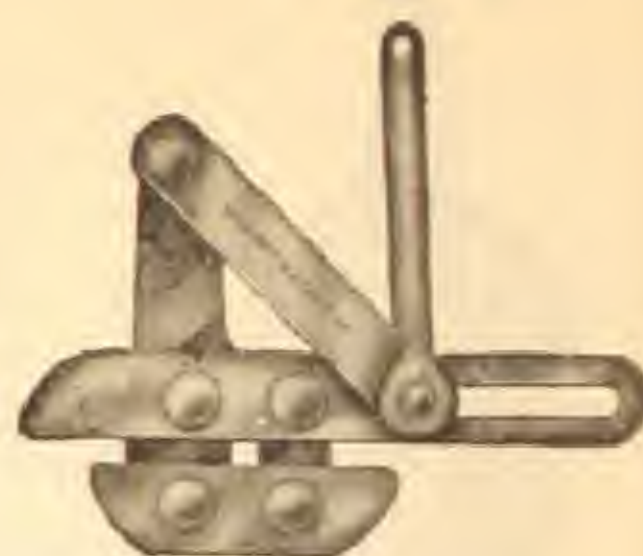


## LINEMEN'S GRIPS

## BUFFALO GRIPS



Closed



Showing Jaws Locked Open

## For Bare Wire

Trade No.	Mfrs. No.	Extreme Opening Inches	For Use with	Price Each
202331	1	22	No. 6 wire and smaller	\$4.10
202332	2	35	No. 0 wire and smaller	6.55
202333	3	48	No. 0000 wire and smaller	9.80

## For Weatherproof Wire

202334	4	52	No. 6 to No. 1 wire	6.55
202335	5	68	No. 4 to No. 0000 wire	8.15
202336	6	27	No. 14 to No. 8 wire	4.10

## BUFFALO GRIPS WITH PULLEYS



## For Bare Wire

Trade No.	Mfrs. No.	Extreme Opening Inches	For Use with	For Rope Diameter Inches	Price, Each with Pulley
202337	1	22	No. 6 wire and smaller	$\frac{3}{8}$	\$4.90
202338	2	35	No. 0 wire and smaller	$\frac{1}{2}$	7.35
202339	3	48	No. 0000 wire and smaller	$\frac{5}{8}$	10.60

## For Weatherproof Wire

202340	4	52	No. 6 to 1 wire	$\frac{1}{2}$	7.35
202341	5	68	No. 4 to 0000 wire	$\frac{5}{8}$	9.00
202342	6	27	No. 14 to 8 wire	$\frac{3}{8}$	4.90

## BUFFALO LINEMEN'S TOOLS



## For Bare Wire

Trade No.	Mfrs. No.	Extreme Opening Inches	For Use with	Price Each
202343	1	22	No. 6 wire and smaller	\$9.50
202344	2	35	No. 0 and smaller	12.00

## For Weatherproof Wire

202345	4	52	No. 6 to 1 wire	12.00
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## LINEMEN'S TOOLS



No. 1618-30

### SAMSON WEDGE GRIPS

#### For Messenger Wire

Trade No.	Mfrs. No.	Description	Price Each
050276	1618-20	For $\frac{3}{16}$ to $\frac{3}{8}$ inch	\$24.00
050277	1618-30	For $\frac{1}{4}$ to $\frac{1}{2}$ -inch	27.00
050278	1618-40	For $\frac{5}{16}$ to $\frac{5}{8}$ -inch	30.00

#### For Trolley Wire

050279	1619-20	For 6 to 00 B. & S.	24.00
050280	1619-30	For 2 to 0000 B. & S.	27.00
045007	1619-40	For $\frac{5}{8}$ -inch and smaller	30.00



No. 1604-10

### HAVEN'S STEEL GRIPS

Trade No.	Mfrs. No.	Description	Price Each
045005	1604-10	For No. 8 wire and finer, galvanized	\$5.00
045006	1604-20	For $\frac{1}{2}$ -inch wire and finer, galvanized	7.00

Very efficient for all-round work.



No. 1625-20

### IMPROVED HAVEN'S GRIPS

Trade No.	Mfrs. No.	Description	Price Each
045008	1625-20	For plain or stranded wire from No. 6 to $\frac{3}{4}$ -in. diam.	\$15.00



No. 1609-20

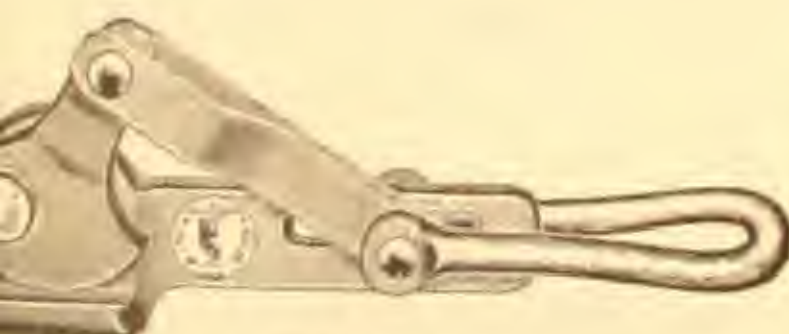
### COME-ALONG ECCENTRIC GRIPS

Trade No.	Mfrs. No.	Description	Price Each
045011	1609-30	For No. 6 wire and finer, galvanized	\$2.50

### STYLE A CLAMPS

Trade No.	Mfrs. No.	Description	Price Each
044833	1605-20	For $\frac{1}{2}$ -in. wire and finer, galvanized steel	\$12.00

Body and draw parts are forged steel. Dog is tool steel, hardened. Galvanized finish.



No. 1605-20



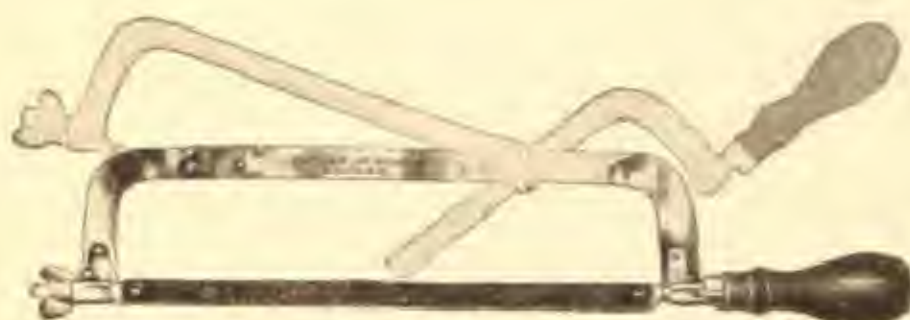
## SAWS



No. 3600-20



No. 3600-21



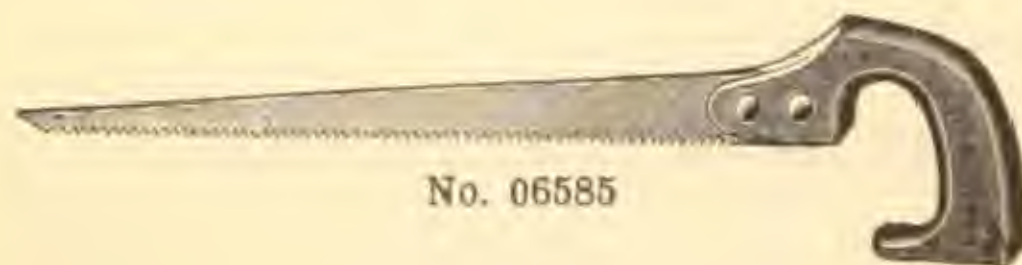
No. 06572



No. 06573



No. 06580



No. 06585



No. 06591



No. 06595

### FAVORITE TREE TRIMMERS

Trade No.	Mfrs. No.	Length Inches	Price Each
06517	3600-20	19	\$6.80
06518	3600-21	21	10.00

No. 3600-21 is the same size as No. 3600-20 only arranged with saw.

#### Saw only

06516	913-12	12	3.20
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### TRIMMER HANDLES

Trade No.	Mfrs. No.	Description	Price Each
06519	3601-9	Two 9-foot handles, joined with ferrule	\$5.40
06520	3601-18	18-foot length	3.40

### HACK SAW FRAMES

#### Adjustable

Trade No.	Description	Price per Doz.
06572	No. 50A, nickel-plated	\$24.00

#### Solid

06573	8-in., nickeled	9.00
06574	10-in., nickeled	10.00

### TRACK HACK SAW FRAMES

06579	12-in. blade, 10-in. depth	18.00
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### HACK SAW BLADES

Trade No.	Length Inches	Price per Doz.
06580	8	\$1.40
06581	9	1.50
06582	10	1.70
06584	12	2.00

### COMPASS SAWS

Trade No.	Length Inches	Price per Doz.
06585	10	\$8.50
06586	12	9.00
06587	14	9.50
06589	16	10.00
06590	18	10.50

### INTERCHANGEABLE SAWS

Trade No.	Description	Price Each
06591	Keyhole, compass and pruning saw set	\$2.00

### KEYHOLE SAWS

06592	Complete	.50
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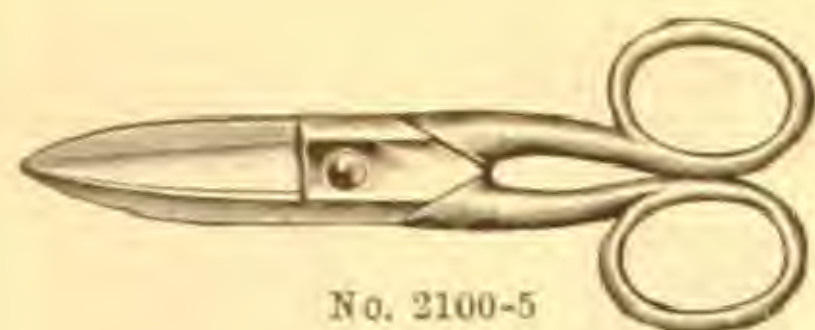
### HAND, PANEL AND RIPSAWS

Crucible steel, apple-wood handle, skew or straight back.

Trade No.	Length Inches	Price per Doz.	Trade No.	Length Inches	Price per Doz.
06595	16	\$14.50	06598	22	\$39.00
06596	18	16.00	06599	24	42.00
06597	20	17.50	06600	26	44.00



# ELECTRICIANS' TOOLS



No. 2100-5

## ELECTRICIANS' SCISSORS

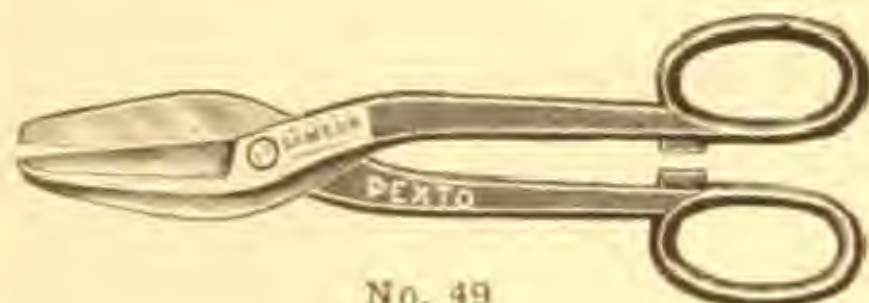
Trade No.	Mfrs. No.	Description	Price Each
045163	2100-5	5 inches long, N. P.	\$3.00



No. 82

## ELECTRICIANS' SHEARS

Trade No.	Mfrs. No.	Description	Price Each
095076	82	7 in. long, 2-in. blade	\$1.00
045164	49	12 $\frac{3}{4}$ in. long, 3-in. blade	1.75
045165	48	14 in. long, 3 $\frac{1}{2}$ -in. blade	2.00



No. 49



No. 1560-2

## CABLE STRIPPER KNIVES

Trade No.	Mfrs. No.	Description	Price Each
045170	1560-2	For insulated wire	\$3.50



No. 1515-1

## CABLE SHEATH SPLITTING KNIVES

Trade No.	Mfrs. No.	Description	Price Each
045171	1515-1	For lead cable	\$5.00



No. 1550-2

## ELECTRICIANS' KNIVES

Trade No.	Mfrs. No.	Description	Price Each
045166	1550-1	Single blade	\$2.00
045167	1550-2	Double blade	2.50

## WIRE TWEEZERS



No. 2200-4 $\frac{1}{2}$



No. 2201-3 $\frac{1}{2}$

Trade No.	Mfrs. No.	Description	Price Each
045172	2200-4 $\frac{1}{2}$	4 $\frac{1}{2}$ in. long, needle point, nickel-plated	\$1.30
045173	2201-3 $\frac{1}{2}$	3 $\frac{1}{2}$ in. long, blunt point, nickel-plated	1.50



## ASHTON RED-HOT TORCHES



No. 10



No. 18



No. 20



No. 21



No. 101



No. 107



No. 114



No. 116

## No. 10 TORCHES

Tank is made of heavy, seamless drawn brass, and has concave brass bottom. Equipped with new improved patented automatic pump in handle. Burner produces a strong, blue flame and has a hook for soldering irons.

Trade No.	Mfrs No.	Capacity	Shipping Wt., Lbs.	Price Each
90790	10	1-quart	4 $\frac{1}{4}$	\$15.20

## No. 18 TORCHES

The No. 18 torch frequently called the auto torch, is made as compact as possible to fit in a tool bag, kit or automobile. It is less than 2 inches in diameter with hinged supports to prevent tipping over. Burner produces a blue flame of intense heat.

90795	18	1-pint	3 $\frac{3}{4}$	18.40
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## No. 20 TORCHES

The No. 20 quart size torch is often called the hand brazier, for it is made on patented coil principle, vaporizing all of the gas above the tank and producing the highest degree of heat.

90792	20	1-quart	6 $\frac{1}{2}$	18.80
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## No. 21 TORCHES

The No. 21 torch is patented, and the burner vaporizes all the gas above the tank and is designed especially to heat soldering coppers in the wind and zero weather. Has hook for soldering iron.

060312	21	1-quart	5	18.00
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## No. 101 TORCHES

The No. 101 kerosene torch has been especially designed to give the user the most serviceable and satisfactory quart torch, using kerosene as fuel. Tank made of heavy gauge seamless drawn brass, re-enforced and fitted with automatic brass pump. Burner made of special generator metal fitted with needle and produces a strong, blue flame of sufficient heat to quickly melt  $\frac{1}{4}$ -inch copper rod. Supplied with cleaning needle free of charge.

90799	101	1-quart	6	17.60
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## No. 107 TORCHES

No. 107 torch produces more heat than any other quart torch made. Burner is improved double needle construction. The upper needle cleans the orifice, the lower needle regulates the flame. Neither can enlarge the fuel opening and ruin the burner. The tank is made of heavy gauge drawn brass re-enforced. Improved automatic pump produces air pressure quickly. Can be used outdoors in zero weather and is wind-proof.

90800	107	1-quart	5 $\frac{1}{2}$	17.00
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## No. 114 TORCHES

The No. 114 torch is made to work inside or outdoors in cold or stormy weather. Tank made of heavy seamless drawn brass with concave bottom and equipped with patented automatic brass pump with double springs. The burner is made of special generator metal, with hook and support for holding a soldering iron and produces a powerful, blue flame of intense heat.

90797	114	1-quart	4 $\frac{1}{8}$	16.00
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## No. 116 TORCHES

The No. 116 torch is constructed the same as the No. 114 except smaller and produces a strong pointed blue flame.

90798	116	1-pint	3	14.40
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## ASHTON RED-HOT FIRE POTS



No. 61



No. 60



No. 51

### No. 61 COIL FIRE POTS

Made with heavy gauge seamless drawn steel tank. Tinned inside and out (rustproof) with patented base band preventing damage to base of tank. Upright rods and top plate are made extra heavy and large filler plug with dustproof cap with large funnel enables the operator to fill the tank without loss of gasoline. The coil is made of extra heavy steel. All valves are fitted with packing nuts, making them tight and supplied with patented automatic brass pump.

Trade No.	Mfrs. No.	Capacity	Shipping Wt., Lbs.	Price Each
87679	61	8 pints	10	\$21.20

### No. 60 COIL FIRE POTS

Same as No. 61 except it is supplied with rubber bulb. All parts are interchangeable with No. 61 only.

Trade No.	Mfrs. No.	Capacity	Shipping Wt., Lbs.	Price Each
87680	60	8 pints	10	19.60

### No. 51 COIL FIRE POTS

Made with heavy galvanized iron tank and galvanized iron top plate and bottom ring. The small fittings are made of malleable iron and brass. Coil made of heavy pipe and free from scale. Supplied with patented automatic pump.

Trade No.	Mfrs. No.	Capacity	Shipping Wt., Lbs.	Price Each
87681	51	8 pints	10	16.60

### No. 50 FIRE POTS

Same as No. 51 except supplied with rubber bulb.

Trade No.	Mfrs. No.	Capacity	Shipping Wt., Lbs.	Price Each
87682	50	8 pints	10	15.00

### No. 54 COIL FIRE POTS

No. 54 Fire Pot will do a wider range of work than any other and gives universal satisfaction. It will heat perfectly 10-pound coppers and melt a pot of metal at the same time. Top section may be removed and tank and burner used as a torch. Tank made of heavy seamless drawn steel, tinned inside and out (rustproof) with patented base band. Extra large filler plug with dust proof cap with large funnel and equipped with patented automatic brass pump.

Trade No.	Mfrs. No.	Capacity	Shipping Wt., Lbs.	Price Each
87683	54	8 pints	12	27.20

### No. 55 FIRE POTS

Same as the No. 54 except one size smaller.

Trade No.	Mfrs. No.	Capacity	Shipping Wt., Lbs.	Price Each
87684	55	6 pints	11	24.80

### No. 68 KEROSENE FIRE POTS

Made with extra large top plate and oval steel shield and will heat perfectly a pair of twelve-pound soldering coppers. Tank made of heavy seamless drawn steel, tinned inside and out (rustproof) with patented base band. Burner protected with windshield and will work perfectly outside in cold or windy weather. Shield for holding coppers may be removed and a kettle of lead or solder melted for instant use.

Trade No.	Mfrs. No.	Capacity	Shipping Wt., Lbs.	Price Each
87685	68	8 pints	14	35.20

### No. 69 KEROSENE FIRE POTS

Especially adapted for telephone, electrical construction and cable work. Made with large cast top plate and large round shield or hood and extra heavy handle. Burner made of special generator metal, especially selected, and produces a strong blue flame of intense heat. Tank made of seamless drawn steel, tinned inside and out (rustproof) with patented base band.

Trade No.	Mfrs. No.	Capacity	Shipping Wt., Lbs.	Price Each
87686	69	8 pints	14	37.60



No. 54



No. 68



No. 69



## TURNER TORCHES



No. 96

## No. 96 GASOLINE TORCHES

This torch is most efficient for burning paint. By actual tests three or more times can be burned with this torch than with ordinary blow torch. Size of flame  $\frac{1}{2}$  inch at burner, which is mounted on swivel so can be turned on either side of tank as shown in illustration. Supplied with wind shield. Brazing of heavy electrical cables annealing light material, street railroad work, linemen, tempering small tools, paint burning, etc.

Trade No.	Capacity Pints	Height Over All Inches	Diam. Inches	Net Wt. Lbs.	Shipping Wt., Lbs.	Consumption per Hour	Price Each
102622	2	11 $\frac{1}{4}$	4	3 $\frac{1}{2}$	5 $\frac{1}{2}$	1 $\frac{1}{4}$	\$20.00



No. 92

## No. 92 GASOLINE TORCHES

The double jet burners consume every particle of gasoline owing to their perfect combustion, and produce very high degree of heat.

The adjustment is simple and is easily regulated. Tank is of heavy gauge brass. Burner of Turner bronze burner metal. Filler plug in bottom of tank. Pump in handle of torch and air valve at base of pump barrel. Recommended especially for light brazing, annealing light material, brazing on rubber tires, and paint burning.

Attachments for holding soldering copper cannot be applied to this torch.

Trade No.	Capacity Pints	Height Over All Inches	Diam. Inches	Net Wt. Lbs.	Shipping Wt., Lbs.	Consumption per Hour	Price Each
102625	2	9 $\frac{1}{2}$	4	3	5	$\frac{3}{4}$	\$17.10



No. 93

## No. 93 GASOLINE TORCHES

This double jet torch has the burner mounted on a swivel so that it can be turned on either side of tank as shown in illustration; otherwise it is the same as No. 92.

Attachments for holding soldering copper cannot be applied to this torch.

Trade No.	Capacity Pints	Height Over All Inches	Diam. Inches	Net Wt. Lbs.	Shipping Wt., Lbs.	Consumption per Hour	Price Each
102626	2	10 $\frac{3}{4}$	4	3	5	$\frac{3}{4}$	\$17.10



No. 32

## No. 32 GASOLINE TORCHES

Auto type torch with improved burner which gives very hot, blue flame, and is constructed so as to lay flat in tool box. Automatic spring valve pump in handle. Attachment to prevent tipping, consists of powerful metal spring attached to bottom, with no projecting side lugs and so formed that when sprung into use it is safe against accidental closing or being broken off. Indoor or outdoor use. For repairmen, linemen, electricians, plumbers and all exacting requirements.

Trade No.	Capacity Pints	Height Over All Inches	Diam. Inches	Net Wt. Lbs.	Shipping Wt., Lbs.	Consumption per Hour	Price Each
102624	1	8 $\frac{1}{2}$	1 $\frac{3}{4}$	2 $\frac{3}{4}$	3 $\frac{1}{2}$	$\frac{1}{4}$	\$18.60



No. 16

## No. 16 GASOLINE TORCHES

This is strictly high-grade, low-priced, pint size torch. It is furnished with automatic spring valve pump in handle. This torch is recommended to give best service obtainable in torch of this type.

Torch regularly fitted and shipped with detachable soldering iron holder

Trade No.	Capacity Pints	Height Over All Inches	Diam. Inches	Net Wt. Lbs.	Shipping Wt., Lbs.	Consumption per Hour	Price Each
102623	1	7 $\frac{3}{4}$	3 $\frac{1}{2}$	2	3 $\frac{1}{2}$	$\frac{1}{3}$	\$13.60



## TURNER HOT BLAST FURNACES



No. 53



No. 66



No. 56

### FOR GASOLINE

With Bulb

Every plumber knows our Pioneer Hot Blast Coil Furnace. We make it as it was originally, which is a guarantee of the durability and mechanical construction. All castings are made of malleable iron or brass, as found most serviceable.

Trade No.	Mfrs. No.	Capacity Pints	Size, INCHES Height	INCHES Diam.	Net Wt., Lbs.	Price Each
35505	53	7	17½	8½	8¼	\$15.00



Nos. 34 and 36

### FOR GASOLINE

With Automatic Brass Pump in Tank

We present herewith a strong, well constructed high grade coil furnace with an automatic pump in the tank, as shown in the illustration.

The tank is made of heavy gauge seamless drawn steel, and will withstand the acid used in connection with telephone and telegraph construction. This furnace will be appreciated by conduit workers, plumbers, gas fitters, etc.

35506	66	7	16½	8	7½	21.20
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This furnace is unequalled in strength, durability and economy. It is made with heavy seamless drawn steel tank and extra heavy bottom, funnel-shaped filler opening with Turner improved filler plug. Produces steady flame in wind and coldest weather.

35507	56	7	16½	8	7½	19.60
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No. 34 is most modern furnace made. Seamless drawn steel tank. Burner so constructed that the greatest heat can be obtained. Will melt kettle of lead and heat a pair of coppers at same time without removing either.

35501	34	7	12	9¾	10	27.20
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No. 36 is the same as No. 34, but smaller.

35502	36	5	12½	8½	9	24.80
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### FOR KEROSENE

The safest, strongest and most economical furnace made.

Produces more heat, with less fuel, at a lower price, than is possible with any furnace burning gasoline.

The patented burner is constructed to burn kerosene or gasoline and can be used equally as well when exposed to a draught or out of doors in windy weather as on the inside.



No. 83

35508	83	7	17¼	8¾	9¼	33.60
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## REPAIR PARTS

### FOR TURNER TORCHES AND FURNACES



No. 054226



No. 054227



No. 054228



No. 054229



No. 054230



No. 054231



No. 054232



No. 054233



No. 054234



No. 054236



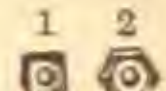
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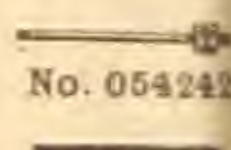
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No. 054241



No. 054242

No. 054243



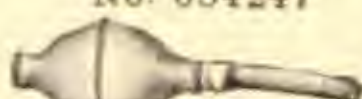
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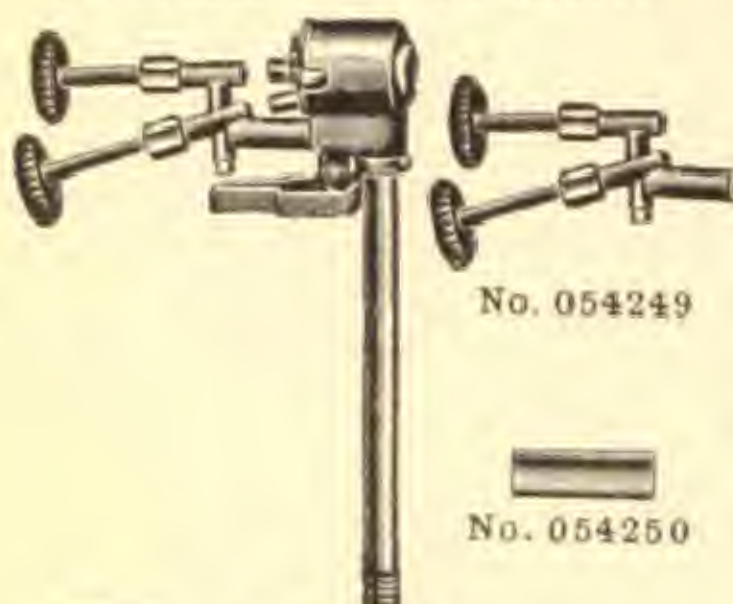
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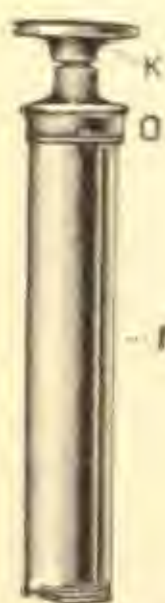
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No. 054250



No. 054248



No. 054251



No. 054252

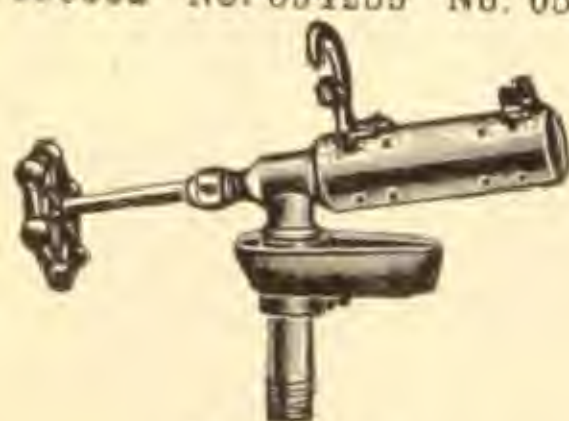


No. 054253



No. 054256

No. 056032



No. 054260



No. 054262



Nos. 054255, 054267

Trade  
No.

054226  
054227  
054228  
054229  
054230  
054231  
054232  
054233  
054234  
054236  
054237  
054238  
054239  
054240  
054241  
054242  
054243  
054244  
054245  
054246  
054247

#### For Turner Pioneer Coil Furnaces

	Price Each
Reservoir for No. 53 .....	\$7.00
Nos. 1 or 2 shield .....	2.00
No. 3 shield .....	4.00
Coil cup .....	1.00
Top plate .....	.80
Handle .....	1.00
Valve .....	1.50
Air valve .....	1.00
Handle ear .....	.30
Coil .....	1.50
Ell or tee, malleable .....	.25
Ell, brass .....	.35
Tee, brass .....	.50
Plug .....	.20
Nuts, Nos. 1 or 2 .....	.08
Upright .....	.30
Connecting pipe .....	.30
Wire for coil .....	.20
Burner .....	.35
Bulb .....	1.00
Brass pump for No. 34 .....	2.00

#### For Turner Double Jet Gasoline Torches No. 92

054248	Burner complete .....	8.07
056032	Pump complete .....	3.23
054249	Angle piece complete .....	2.87
054250	Long induction tube .....	.37
054251	Short induction tube .....	.37
054252	Coil inside burner .....	.37
054253	Screen inside burner .....	.37
054255	Non-leaking filler plug only .....	.80
054256	Air valve screw .....	.70
054257	Pump cylinder M .....	.95
054258	Pump plunger complete K .....	1.92
054259	Pump cap O .....	.41

#### For Turner Hot Blast Torches

054260	Burner complete, for Nos. 212 and 215 gasoline quart Hot Blast torch .....	7.52
054261	Burner complete, for No. 222 torch .....	7.52
054262	Burner complete, for No. 312 torch .....	7.52
054263	Burner complete, for No. 426 torch .....	10.20
054264	Burner complete, for No. 12 torch .....	7.52
054267	Filler plug complete, with inlet and locknut, non-leaking .....	1.50
054268	Filler plug only (non-leaking) .....	.80
054269	Pump cylinders, quart .....	1.12
054270	Pump cylinders, pint .....	1.12
054271	Pump plunger complete, quart .....	1.00
054272	Pump plunger complete, pint .....	1.00
054273	Pump cap, quart .....	.48
054274	Pump cap, pint .....	.48

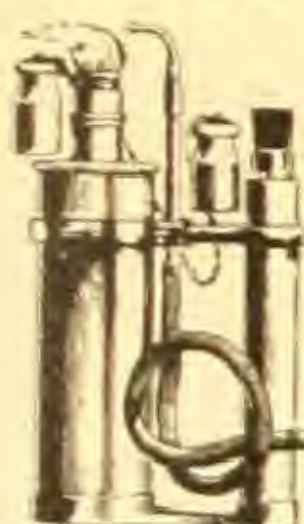
All of the above burners, except for 92 torch, include attachments for holding a soldering copper, which are loose and easily applied.



## SOLDERING SUPPLIES



Baby Torch



No. 79 Torch

### BABY GASOLINE TORCHES

A simple, automatic tool with no movable parts valves or pump to get out of order or be replaced. Tank is only 3 inches high and 2 inches in diameter. It requires no pumping and is always ready for use. Simply hold a lighted match to the burner—it lights quickly. Will burn steadily for 2 hours on one filling of gasoline.

Trade No.	Description	Price Each
095064	Baby Gasoline Torch.....	\$2.00

### No. 79 WILLSON ALCOHOL TORCHES

#### Blowpipe and Torch

Handle contains vial for holding acid. Capacity,  $\frac{1}{2}$  pint.

Dimensions over all: Height,  $7\frac{3}{4}$  inches; diameter,  $1\frac{3}{4}$  inches. Weight, net  $1\frac{1}{2}$  pounds. Consumption,  $\frac{1}{8}$  pint per hour.

095065	Complete, with rubber tube....	14.70
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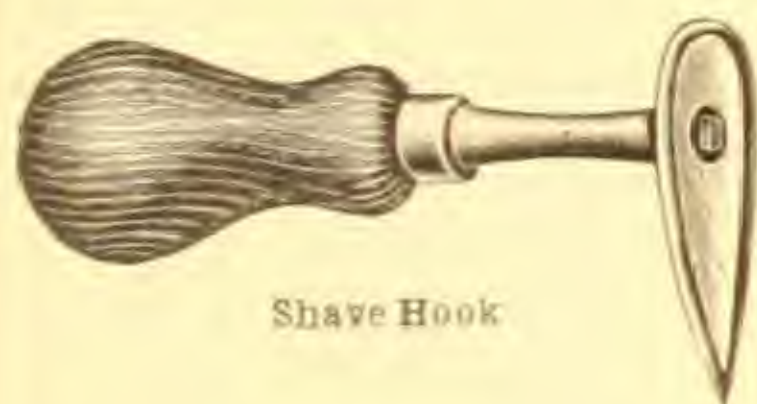
Standard Soldering Copper



Pony Soldering Copper

### STANDARD SOLDERING COPPERS

Trade No.	Weight Pounds	Price per Lb.	Trade No.	Weight Pounds	Price per Lb.
019255	$\frac{1}{2}$	\$1.00	019259	2	\$1.00
019256	$\frac{3}{4}$	1.00	019260	$2\frac{1}{2}$	1.00
019257	1	1.00	019261	3	1.00
019258	$1\frac{1}{2}$	1.00	019262	4	1.00



Shave Hook

### PONY SOLDERING COPPERS

Trade No.	Length Inches	Price per Lb.	Trade No.	Length Inches	Price per Lb.
019263	12	\$1.00	019266	9	\$1.00
019264	$11\frac{1}{2}$	1.00	019267	$8\frac{1}{2}$	1.00
019265	$10\frac{1}{2}$	1.00			

Fitted with black lacquered handle.

### SHAVE HOOKS

019252	Triangle.....	.60
019253	Oval.....	.60



Wood Dresser

### WOOD DRESSERS

019254	For lead sleeves, etc.....	1.80
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### WIPING CLOTHS

095058	Molskin.....	.70
095059	Ticking.....	.50



Wiping Cloth



Turn Pin

### WOOD TURN PINS

095060	1-inch.....	.60
095061	2-inch.....	.60
095062	3-inch.....	.60

### PEXTO WOOD HANDLES

Trade No.	Mfrs. No.	Description	Price per Doz.
70891	31	Soldering copper handle, wired.	\$0.40



Soldering Copper Handle



## SCREWDRIVERS



Champion, Regular Style



Champion, Electrician's Style



Hurwood, No. 20



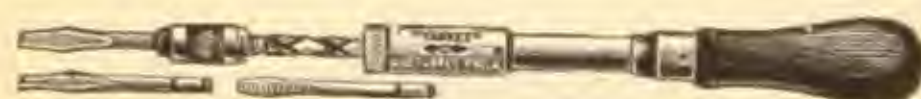
Hurwood, Nos. 40 and 45



Yankee Ratchet, No. 11



Yankee Ratchet, No. 12



Yankee Spiral Ratchet, No. 30



Screwdriver Bit

## GENUINE CHAMPION SCREWDRIVERS

## Regular Style

Trade No.	Length of Blade Inches	Price Each	Trade No.	Length of Blade Inches	Price Each
108458	1½	\$4.50	108493	6	\$9.00
108459	2½	4.50	108494	7	10.50
108460	3	5.25	108495	8	12.00
108461	4	6.35	108496	10	15.00
108462	5	7.50	108497	12	18.00

## Electrician's Style

108463	2½	4.50	108498	6½	10.00
108464	3½	5.75	108499	8½	13.50
108465	4½	7.00	108500	10½	17.50
108466	5½	8.50	108501	12½	22.00

## HURWOOD SCREWDRIVERS

## Common, No. 20

108467	2½	3.30	108503	10	10.20
108468	3	3.80	108504	12	12.00
108469	4	4.55	108506	18	18.00
108470	5	5.40	108507	24	24.00
108471	6	6.45	108508	30	30.00
108473	8	7.80			

## Common, No. 40

108474	2½	3.30	108478	6	6.45
108475	3	3.80	108480	8	7.80
108476	4	4.55	108510	10	10.20
108477	5	5.40	108511	12	12.00

## Cabinet Electric, No. 45

Electric screwdrivers are insulated by non-conducting button in head.

108482	2	3.30	108486	6	6.45
108483	3	3.80	108488	8	9.80
108484	4	4.55	108517	10	10.20
108485	5	5.40	108518	12	12.00

## YANKEE RATCHET SCREWDRIVERS

## No. 11

108489	3	12.90	108523	8	19.30
108490	4	13.80	108524	10	23.20
108491	5	15.20	108525	12	25.50
108492	6	17.10			

## No. 12

108526 1½ 15.10  
No. 12 is same as 6-inch, No. 11, except blade, which is only 1½ inches in length.

## YANKEE SPIRAL RATCHET SCREWDRIVERS

## No. 30, Right and Left-hand

They drive or draw screws by pushing on handle or by ratchet movement of handle. Length of tool with bit in chuck, 13½ inches closed, 19¼ inches when extended.

Trade No.	Description	Price per Doz
108527	Complete, with three different width bits	\$48.20

## SCREWDRIVER BITS

Trade No.	Length Inches	Size of Bits Inches	Price per Doz
108528	4	¼, ⅜, ½, ⅝, ¾	\$3.36



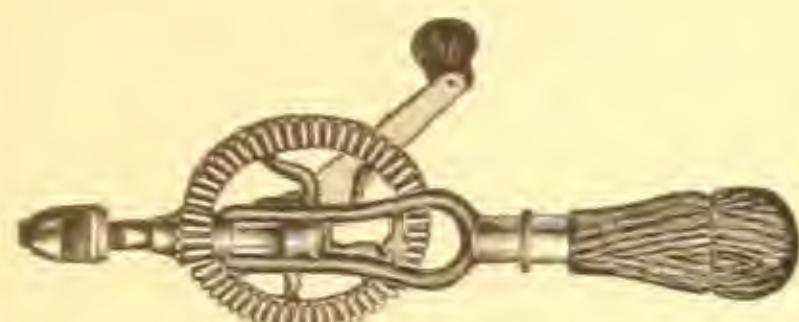
## DRILLS AND BORING TOOLS



No. 08073



No. 08076



No. 08077



No. 08078

### BREAST DRILLS

Trade No.	Mfrs. No.	Style of Gear	Price Each
08073	1	Double	\$ 8.00
08074	5	Double	10.00
08075	2	Single	5.50
08076	6	Single	7.50

No. 5 is similar to No. 1, but has a chuck the same style as No. 6.

No. 2 is similar to No. 6, but has a chuck the same style as No. 1.

Nos. 1 and 2 have two-jaw chuck.

Nos. 5 and 6 have three-jaw chuck and will take from 0 to  $\frac{7}{8}$ -inch round shank drills.

### HAND DRILLS

Trade No.	Mfrs. No.	Size, Drill Inches	Length Inches	Price Each
08077	3	$\frac{1}{16}$ to $\frac{9}{64}$	10 $\frac{1}{2}$	\$3.50
08078	4	$\frac{1}{16}$ to $\frac{9}{64}$	12 $\frac{1}{2}$	5.50

### BORING MACHINES

#### Bowlus

An inexpensive handy device designed particularly for electrical construction work and will drill more holes in one hour than a breast drill under similar conditions in a day.

The construction of the machine permits of drilling in overhead joists or studding and can be reversed for work below the floor. The steel extension rod allows adjustment for ceilings seven to eleven feet high.

Trade No.	Description	Price Each
188282	Boring machine complete.....	\$18.00

#### Henderson

08082	With one $\frac{1}{8}$ -inch bit.....	25.00
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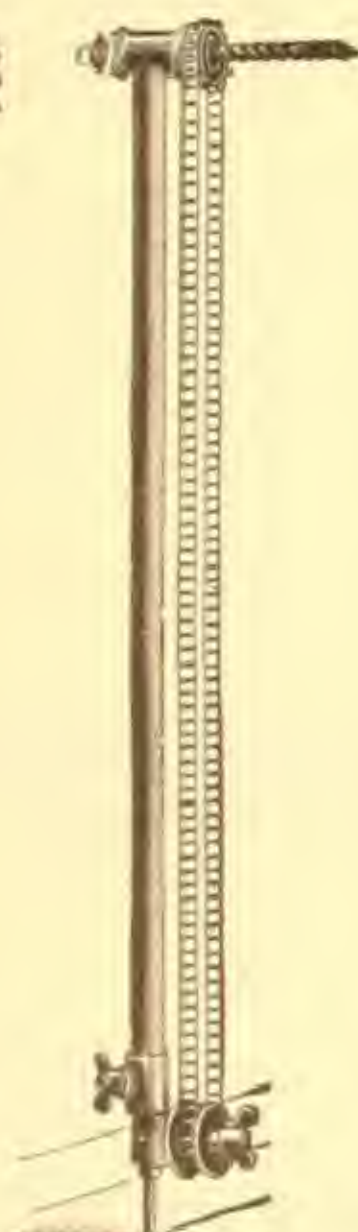
Has ball bearings and universal bit holders. Adjustable from 4 $\frac{1}{2}$  feet to 12 feet.

#### Standard

012890	For overhead work only.....	20.00
012891	With below boring fixtures.....	22.00
012892	For overhead only, to bore 17 ft.	21.00
012893	Machine to bore 17 feet, including below boring fixture..	23.00
012894	Below boring fixture with heads and bits.....	16.00
012895	Head only.....	14.00
012896	Base partition machine.....	12.00



Bowlus Machine



No. 08082



No. 012890



## BRACES

## RATCHET BRACES

## With Ball-Bearing Heads



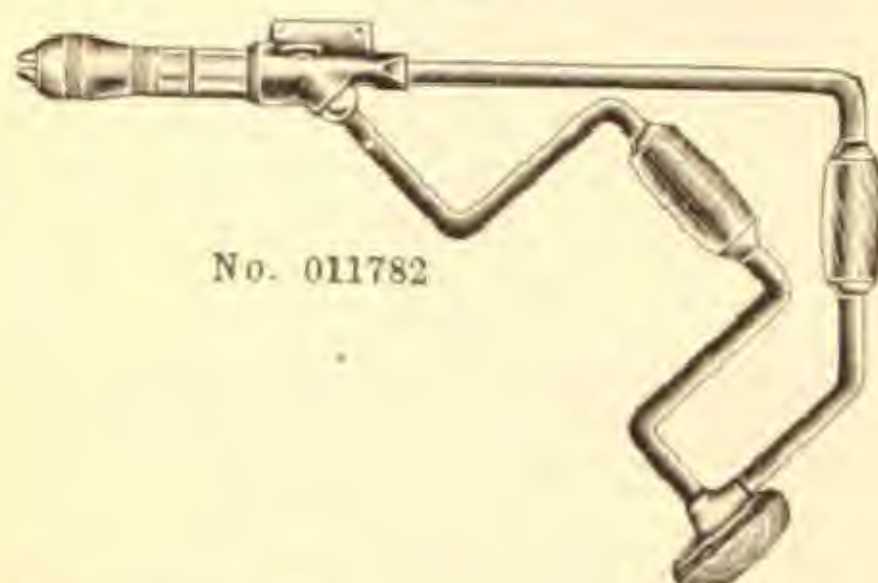
No. 011756

Trade No.	Mfrs. No.	Sweep Inches	Std. Pkg.	Price Each
011756	66	6	6	\$4.00
011757	86	8	6	4.00
011758	106	10	6	4.70
011759	126	12	6	4.90
011760	146	14	6	5.10



No. 011761

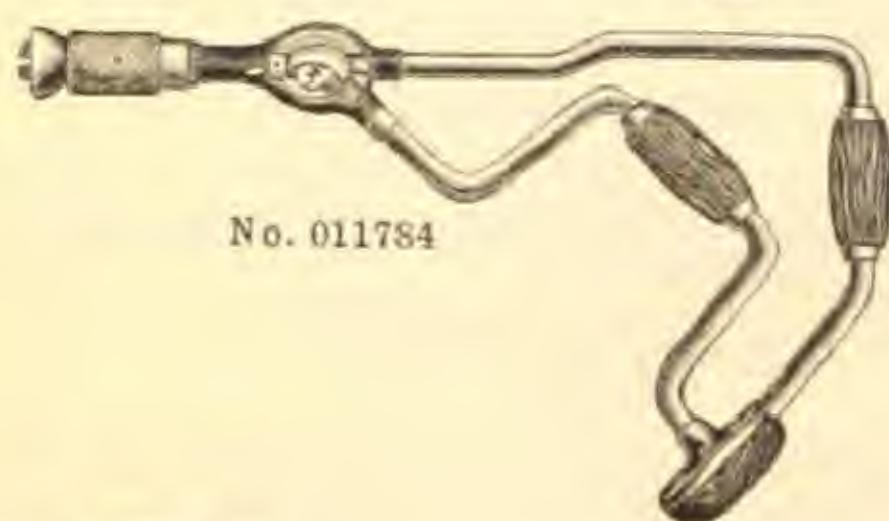
## Without Ball-Bearing Heads



No. 011782

011762	82	8	6	4.00
011763	102	10	6	4.10
011764	122	12	6	4.30
011765	142	14	6	4.50

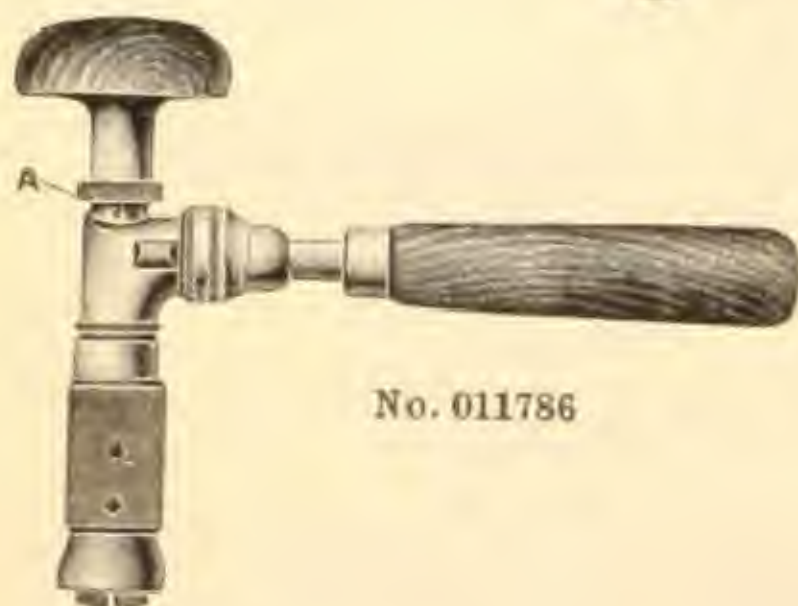
## CORNER BRACES



No. 011784

011782	585	8		9.00
011783	586	10		9.75
011784	80	8	2	6.85
011785	100	10	2	7.55

## CORNER RATCHET BIT BRACES



No. 011786

011786	70		2	4.30
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## UNIVERSAL ANGULAR BIT STOCKS

011787	60		6	3.30
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## EXTENSION BIT HOLDERS



No. 011787



No. 011788

011788	3A	12		2.15
011789	3B	16		2.20
011790	3C	20		2.30
011791	3D	24		2.40
011792	3E	30		2.55



## MEPHISTO AUGER BITS

### No. 8 AUGER BITS



Guaranteed to bore in the hardest woods with ease under any conditions, with or against grain, and not clog. Will not tear the wood, but will bore all the way through without splin-  
g, leaving a perfectly smooth bore.

	Size, Inches in 16ths	Price Each	Trade No.	Size, Inches in 16ths	Price Each
28	4	\$0.80	89537	13	\$1.70
29	5	.90	89538	14	1.80
30	6	1.00	89539	15	1.90
31	7	1.10	89540	16	2.00
32	8	1.20	89541	17	2.20
33	9	1.30	89542	18	2.40
34	10	1.40	89543	20	3.00
35	11	1.50	89544	22	3.30
36	12	1.60	89545	24	3.60

### No. 900 ELECTRICIANS' BITS



This bit is designed especially for electricians' use, made of special steel and guaranteed to  
e in hard or soft wood, fiber board, concrete, brick, plaster, etc., and so tempered that con-  
t with nails will not damage it as the spur and cutting lip are so constructed that they can  
happened over and over until completely worn out.

	Size, Inches in 16ths	Price Each	Trade No.	Size, Inches in 16ths	Price Each
46	10	\$1.40	89547	11	\$1.50

### CAR AND SHIP BUILDERS' BITS



Designed for work of car builders, ship builders, dock builders, bridge builders and others  
needing an extra length bit of durable quality.

#### No. 12, Twist 8 Inches, Shank 4 Inches

	Size, Inches in 16ths	Price Each	Trade No.	Size, Inches in 16ths	Price Each
49	4	\$1.50	89557	12	\$2.40
50	5	1.60	89558	13	2.60
51	6	1.70	89559	14	2.80
52	7	1.80	89560	15	3.00
53	8	1.90	89561	16	3.30
54	9	2.00	89562	18	3.90
55	10	2.10	89563	20	4.20
56	11	2.20	...	...	...

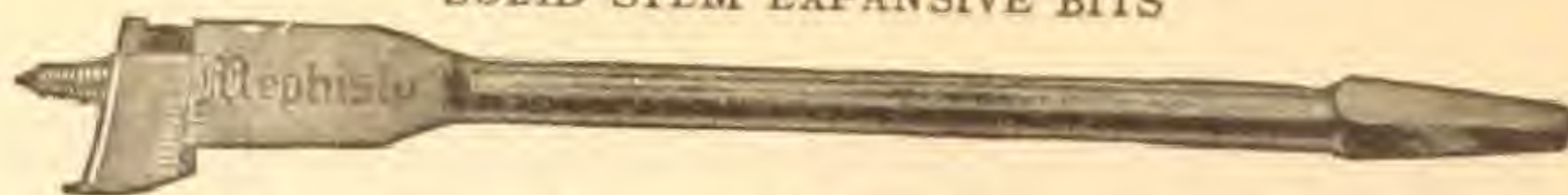
#### No. 18, Twist 12 Inches, Shank 6 Inches

	Size, Inches in 16ths	Price Each	Trade No.	Size, Inches in 16ths	Price Each
64	4	2.00	89572	12	3.40
65	5	2.10	89573	13	3.70
66	6	2.20	89574	14	4.00
67	7	2.30	89575	15	4.30
68	8	2.40	89576	16	4.60
69	9	2.50	89577	17	4.90
70	10	2.80	89578	18	5.20
71	11	3.10	89579	20	6.00



## MEPHISTO AUGER BITS

## SOLID STEM EXPANSIVE BITS



This bit is a great improvement over the old form of expansive bit. The dovetail method of holding the cutter is used, it being so constructed that the cutter will stand the severest strain without creeping, springing or loosening while boring.

Trade No.	Mfrs. No.	Description	Price Each
89590	87	Complete with two cutters, cutting from $\frac{1}{2}$ to $1\frac{1}{2}$ inches.....	\$2.80
89591	88	Complete with two cutters, cutting from $\frac{3}{8}$ to 3 inches.....	4.00
Extra Cutters			
89592	1	Cutting from $\frac{1}{2}$ to $\frac{3}{8}$ inch.....	.50
89593	2	Cutting from $\frac{3}{8}$ to $1\frac{1}{2}$ inches.....	.60
89594	3	Cutting from $\frac{3}{8}$ to $1\frac{3}{4}$ inches.....	.80
89595	4	Cutting from $1\frac{3}{4}$ to 3 inches.....	1.00

## No. 60 SCREWDRIVER BITS



Trade No.	Size Inches	Price Each	Trade No.	Size Inches	Price Each
89596	$\frac{1}{4}$	\$0.40	89599	$\frac{1}{2}$	\$0.70
89597	$\frac{5}{16}$	.50	89600	$\frac{3}{8}$	.80
89598	$\frac{3}{8}$	.60			

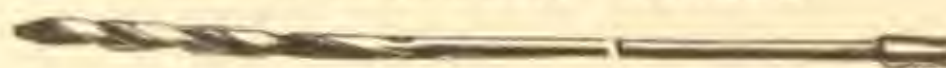
## No. 5 PLUMBERS' BITS



These bits are designed especially for the use of plumbers and electricians using boring machines where work is to be performed in limited space. Made  $5\frac{1}{2}$  inches in length to meet these special requirements.

Trade No.	Size, Inches in 16ths	Price Each	Trade No.	Size, Inches in 16ths	Price Each
89601	10	\$1.40	89607	16	\$2.00
89602	11	1.50	89608	18	2.40
89603	12	1.60	89609	20	3.00
89604	13	1.70	89610	22	3.30
89605	14	1.80	89611	24	3.60
89606	15	1.90			

## BELL HANGERS' DRILLS



Trade No.	Size, Inches in 32ds	12-inch	18-inch	24-inch	30-inch	36-inch
013276	6	\$7.50	\$10.00	\$12.50	\$15.00	\$17.50
013277	8	8.00	10.50	13.00	15.50	18.00
013278	10	8.75	11.00	13.50	16.00	18.50
013279	12	9.50	12.00	14.50	17.00	19.50
013280	14	10.50	13.00	15.50	18.00	20.50
013281	16	12.00	14.50	17.00	19.50	22.00
013282	18	13.50	16.00	18.50	21.00	23.50
013283	20	15.25	17.75	20.25	22.75	25.25
013284	22	17.00	19.50	22.00	24.50	27.00
013285	24	19.00	21.50	24.00	26.50	29.00
013286	26	21.00	23.50	26.00	28.50	31.00
013287	28	23.00	25.50	28.00	30.50	33.00
013288	30	25.00	27.50	30.00	32.50	35.00
013289	32	27.50	30.00	32.50	35.50	38.00
013290	34	30.50	33.00	35.50	39.00	42.00
013291	36	33.00	36.00	39.00	42.50	47.00



## WRENCHES



Combination Lag Screw Wrench

### COMBINATION LAG SCREW WRENCHES

Trade No.	Mfrs. No.	Description	Price Each
045254	3109-20	For $\frac{3}{8}$ , $\frac{1}{2}$ and $\frac{5}{8}$ -inch lag screws and $\frac{5}{8}$ -inch machine bolts, galvanized.	\$5.00



Stillson Pattern Wrench

### STILLSON PATTERN WRENCHES

Trade No.	Tal. Pipe, In.	Length Inches	Price Each
045222	$\frac{1}{2}$	6	\$2.00
045223	$\frac{3}{4}$	8	2.25
045224	1	10	2.50
045225	$1\frac{1}{2}$	14	3.50
045226	2	18	5.00
045227	$2\frac{1}{2}$	24	7.25

Wood handle, 6 to 14 inches; steel handle, 18 to 48 inches.



Trimo Wrench

### TRIMO WRENCHES

045230	$\frac{1}{2}$	6	2.00
045231	$\frac{3}{4}$	8	2.25
045232	1	10	2.50
045233	$1\frac{1}{2}$	14	3.50
045234	2	18	5.00
045235	$2\frac{1}{2}$	24	7.25



No. 25 Stronghold Wrench  
Handle Broken to Show Stronghold Construction

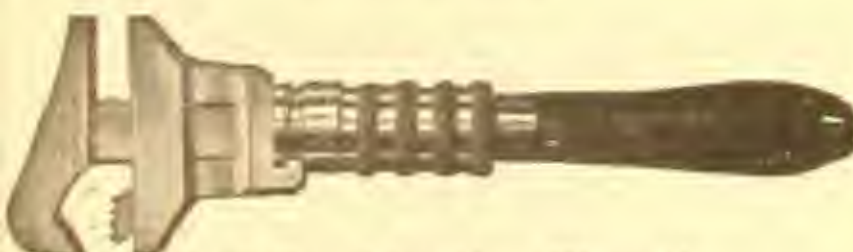
### KNIFE HANDLE WRENCHES

No. 25 stronghold knife handle wrenches have a one-piece forged head and bar, which runs entirely through the handle and is end riveted, in addition to two rivets in the handle. No. 100 solid handle wrench has the head, bar, shoulder and handle frame forged solid in one piece and casehardened.



No. 100 Solbar Wrench  
Handle Broken to Show Solid Bar Construction

No. 25 Trade No.	No. 100 Trade No.	Length Inches	Price per Doz.
115745	115752	6	\$15.00
115746	115753	8	18.00
115747	115754	10	22.00
115748	115755	12	28.00
115749	115756	15	38.00
115750	115757	18	48.00



B & C Combination Wrench

### B & C COMBINATION WRENCHES

With Long Nut, Black Finish

Trade No.	Length Inches	For Pipe Size, Inches	Price per Doz.
115759	8	$\frac{3}{4}$ to $\frac{3}{4}$	\$23.00
115760	10	$\frac{3}{4}$ to 1	25.25
115761	12	$1\frac{1}{2}$ to $1\frac{3}{4}$	28.50
115762	15	$1\frac{1}{2}$ to $2\frac{1}{4}$	40.50



Monkey Wrench

### SOLID HANDLE MONKEY WRENCHES

Black Finish

Trade No.	Length Inches	Opens Inches	Price per Doz.
101998	6	$\frac{7}{8}$	\$15.00
101999	8	$1\frac{1}{4}$	18.00
102000	10	$1\frac{3}{4}$	22.00
102001	12	$2\frac{1}{8}$	28.00
102002	15	$2\frac{3}{4}$	38.00
102003	18	$3\frac{1}{8}$	48.00

### CRESCENT ADJUSTABLE WRENCHES

Single End—Polished Finish

102005	4	$\frac{1}{2}$	7.80
102006	6	$\frac{3}{4}$	7.80
102007	8	$1\frac{1}{8}$	9.60
102008	10	$1\frac{3}{8}$	12.00
102009	12	$1\frac{5}{8}$	18.00
102010	15	$1\frac{7}{8}$	27.00

Double End—Polished Finish

101126	6-8	$\frac{3}{4}$ — $1\frac{1}{8}$	15.00
101127	8-10	$\frac{5}{8}$ — $1\frac{1}{8}$	18.00



Crescent Adjustable Wrench, Single End



Crescent Adjustable Wrench, Double End



## TOOLS



No. 063629



No. 063632

Trade  
No.  
063629  
063630  
063631

Size

2  
1½  
1

Weight

13 ounces  
1 pound  
1¼ pounds

Price  
per Doz.  
\$24.00  
25.50  
27.00

### BELL-FACED NAIL HAMMERS

Solid Forged Steel, Polished

### MACHINISTS' HAMMERS

Forged Steel, Ball Pein

096868  
096869  
063632  
063633  
063634  
063635  
063636

0000  
000  
00  
0  
1  
2  
3

6  
6  
12 ounces  
1 pound  
1¼ pounds  
1½ pounds  
1¾ pounds

24.00  
24.00  
24.00  
25.00  
27.00  
29.00  
31.00



No. 063637



No. 063641

### RIVETING HAMMERS

Forged Steel

096870  
096871  
063637  
063638  
063639  
063640

1  
2  
3  
4  
5  
6

7 ounces  
9 ounces  
12 ounces  
15 ounces  
18 ounces  
22 ounces

23.00  
24.00  
25.00  
26.00  
28.00  
30.00

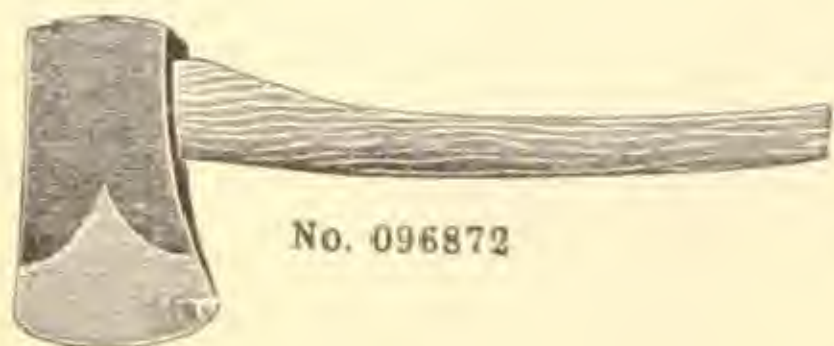
### BROAD HATCHETS

Trade  
No.  
063641  
063642  
063643  
063644

Mfrs.  
No.  
362  
363  
364  
365

Size of Cut  
Inches  
4½  
5  
5½  
6

Price  
per Doz.  
\$29.70  
36.00  
40.00  
45.00



No. 096872

### CHOPPING AXES

Trade  
No.  
096872  
096873

Weight  
Pounds  
4 to 5  
5 to 6

Price  
per Doz.  
\$40.00  
61.20

### COMMON COLD CHISELS

Octagon Tool Steel, Forge Finished



No. 063646

Trade  
No.  
063645  
063646  
063647  
063648  
063649  
063650

Size  
Inches  
3/8 x 5½  
1/2 x 6  
5/8 x 7  
3/4 x 8  
7/8 x 8½  
1 x 9

Wt., Lbs.  
per Doz.  
2¼  
4  
7  
10  
15  
21

Price  
Each  
\$0.30  
.40  
.50  
.60  
.80  
1.00

### SOCKET FRAMING CHISELS

Cast Steel, Polished, Hickory Handle



No. 063651

Trade  
No.Size  
Inches

063651  
063652  
063653  
063654  
063655  
063656  
063657  
063658

3/8  
1/2  
3/4  
1  
1¼  
1½  
1¾  
2

Price  
per Doz.  
\$18.00  
18.00  
20.00  
22.00  
24.00  
26.00  
29.00  
32.00



No. 063659

Trade  
No.  
063659  
063660

Blade  
Inches  
12  
14

Price  
per Doz.  
\$61.20  
67.50

### LINEMEN'S DRAW KNIVES



## GAUGES AND REELS



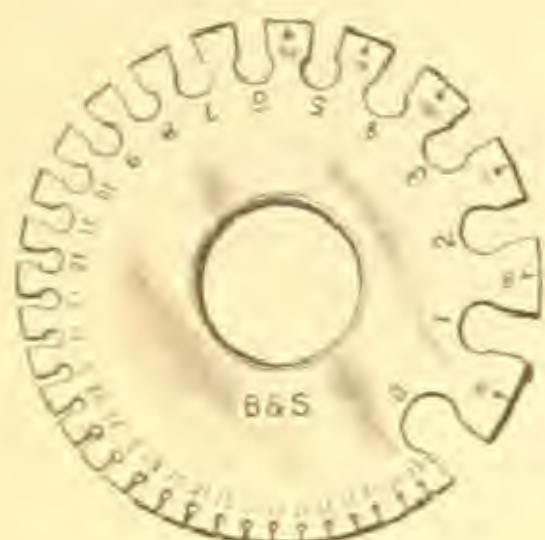
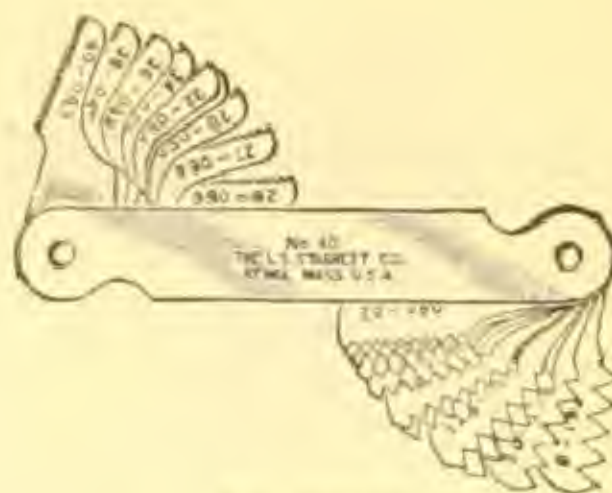
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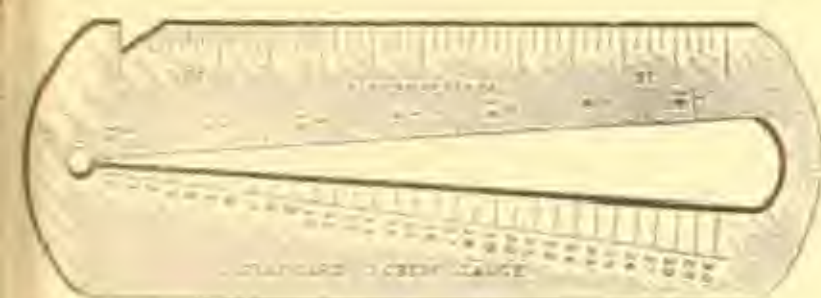
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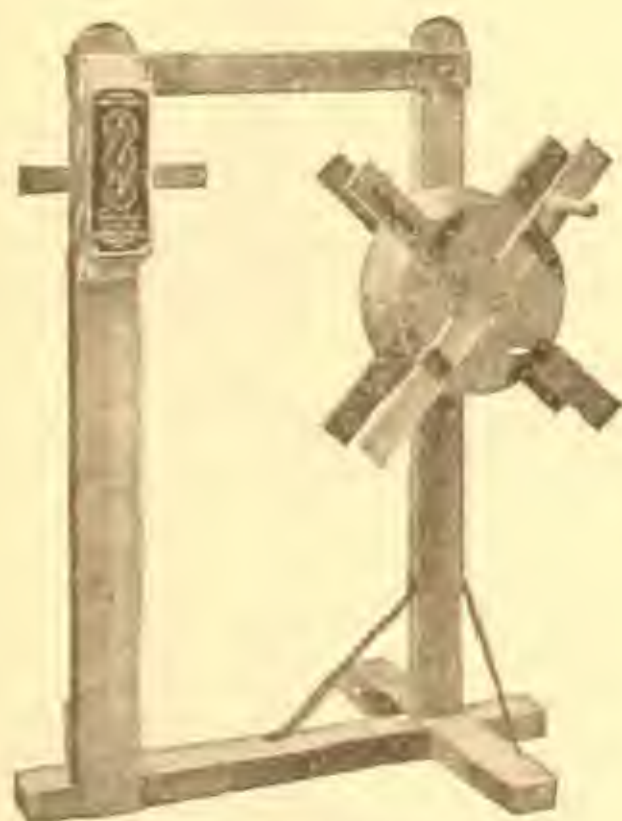
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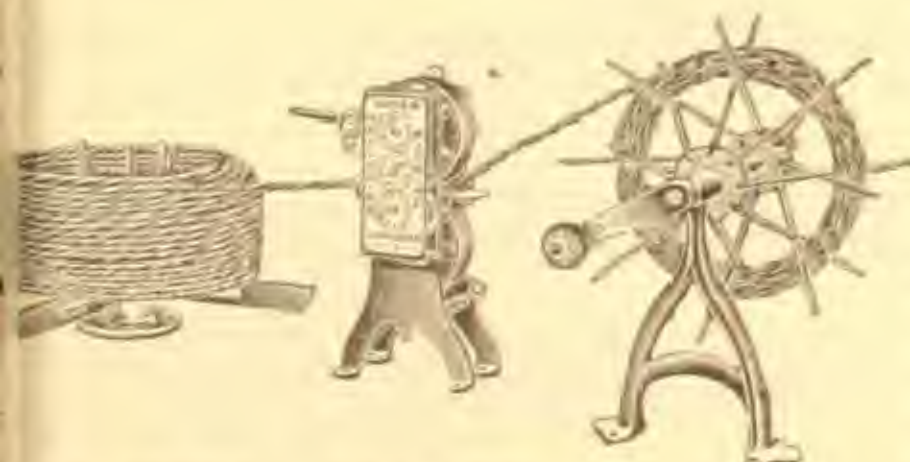
No. 190473



No. 190475



No. 012640



No. 042548 No. 042549 No. 042550

### PALETTE WIRE GAUGES

Pocket wire gauge for measuring wire from No. 18 to No. 000 B. & S. gauge. On the front is also given the carrying capacity of copper wire in amperes and on the reverse side the approximate decimal equivalent of the various size wires.

Trade No.	Wire gauge	Price Each
063701	Wire gauge	\$2.50

### U. S. WIREMAN'S CALCULATING GAUGES

On one side set the required number of feet on the small circle opposite the required number of amperes on the large circle, then set the small pointer at the required voltage and loss.

On the reverse side the large pointer will indicate the required size of wire in B. & S. gauge and will also indicate the safe carrying capacity, while the wire may be gauged by the slot A.

063702	Wire gauge	5.00
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### STARRETT'S SCREW PITCH GAUGES

This gauge has twenty-two pitches, viz.: 9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40. Can be used inside a nut as well as on the outside of a screw or bolt.

063703	No. 40	5.00
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### BROWN & SHARPE WIRE GAUGES

Trade No.	Mfrs. No.	Wire Sizes American Std.	Price Each
190473	688	0 to 36	\$5.00
190474	688	5 to 36	4.00

### BROWN & SHARPE SCREW AND WIRE GAUGES

190475	700	Pocket size	5.00
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### MINNEAPOLIS REELS AND METERS

Trade No.		Wt. Lbs.	Price Each
012640	Reel and meter	75	\$35.00
012641	Meter only	10	22.50
012642	Counter meter	12	23.50
012643	Cable meter	35	35.00

### WIRE MEASURING OUTFITS

For measuring lamp cord and wires from Nos. 0 to 40, inclusive.

It can be fastened either to counter or side of wall. Winder and reel can be closed up when not in use.

042548	Folding reel	3¾	12.00
042549	Measuring machine	8	30.00
042550	Wire winder	5½	20.00



## MEASURING TOOLS

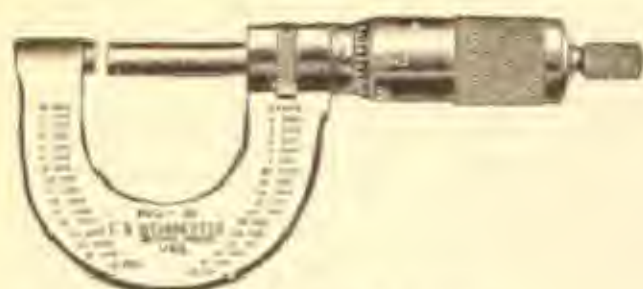
## MICROMETERS



Nos. 204 and 205

Trade No.	Mfrs. No.	Measurements	Price Each
063574	*204	Thousandths up to 1 inch	\$15.00
063576	*3	Thousandths up to 1 inch	10.00
063577	*113	Ten thousandths up to 1 inch	11.75
063578	203	Thousandths up to 1 inch	8.50
063579	209	Ten thousandths up to 1 inch	10.25
063580	*232	Thousandths up to $\frac{1}{2}$ inch	8.50
063581	*233	Ten thousandths up to $\frac{1}{2}$ inch	10.25

\*These numbers have ratchet stop and locknut.  
If with leather case, add \$1.30 to list



Nos. 3 and 113

## POCKET STEEL TAPES, No. 500

No. 500 tapes are  $\frac{1}{4}$  inch wide, in nickel-plated cases with rounded edges. Spring wind with center stop. Graduated in inches and sixteenths of an inch.

Trade No.	Length Inches	Diam. of Case Inches	Price Each
063582	36	$1\frac{3}{8}$	\$0.75
063583	60	$1\frac{1}{2}$	.95
063584	72	$1\frac{11}{16}$	1.00
063585	96	$1\frac{13}{16}$	1.50

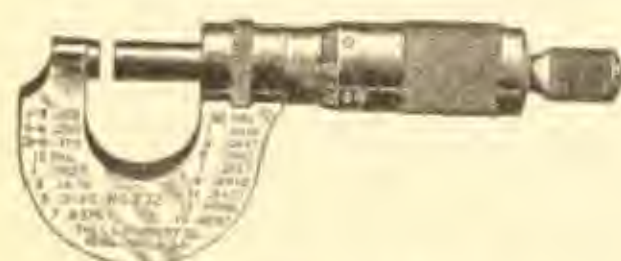


Nos. 203 and 209

## STEEL TAPES, No. 505—STEEL CASE

No. 505 tapes are graduated in feet and twelfths of a foot, also in inches and eighths of an inch.

These tapes are  $\frac{3}{8}$  inch wide, in strong nickel-plated steel cases, with folding flush winders. They are used principally by engineers and others where oil or grease would soil leather cases.



Nos. 232 and 233

063586	25	$2\frac{3}{4}$	4.45
063587	50	$3\frac{1}{4}$	5.40
063588	75	$3\frac{3}{4}$	7.20
063589	100	$4\frac{1}{4}$	9.25

## STEEL TAPES, No. 510—LEATHER CASE

No. 510 tapes are graduated in feet and twelfths of a foot, also in inches and eighths of an inch.

These tapes are  $\frac{3}{8}$  inch wide, in hard leather cases; flush handle, trimmings nickel-plated.



No. 500



Nos. 505 and 506

063590	25	$2\frac{7}{8}$	4.90
063591	50	$3\frac{3}{8}$	6.00
063592	75	$3\frac{7}{8}$	7.80
063593	100	$4\frac{1}{2}$	10.20

## STEEL TAPES, No. 512—LEATHER CASE

No. 512 tapes are graduated in feet and twelfths of a foot, also in inches and sixteenths of an inch.

These tapes are  $\frac{1}{4}$  inch wide, in hard leather cases, flush handle, nickel-plated trimmings.



Nos. 510 and 511

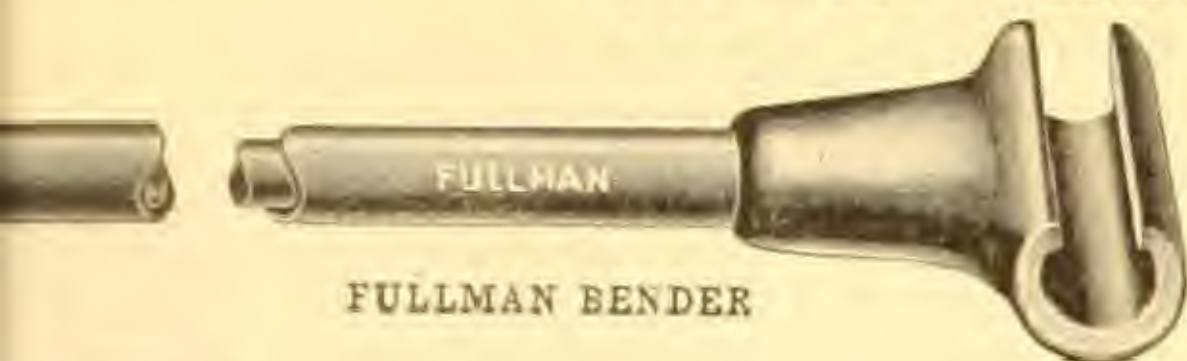


Nos. 512 and 513

063594	25	$2\frac{1}{4}$	4.70
063595	33	$2\frac{1}{2}$	5.00
063596	50	$2\frac{7}{8}$	5.70
063597	66	$3\frac{3}{8}$	7.10



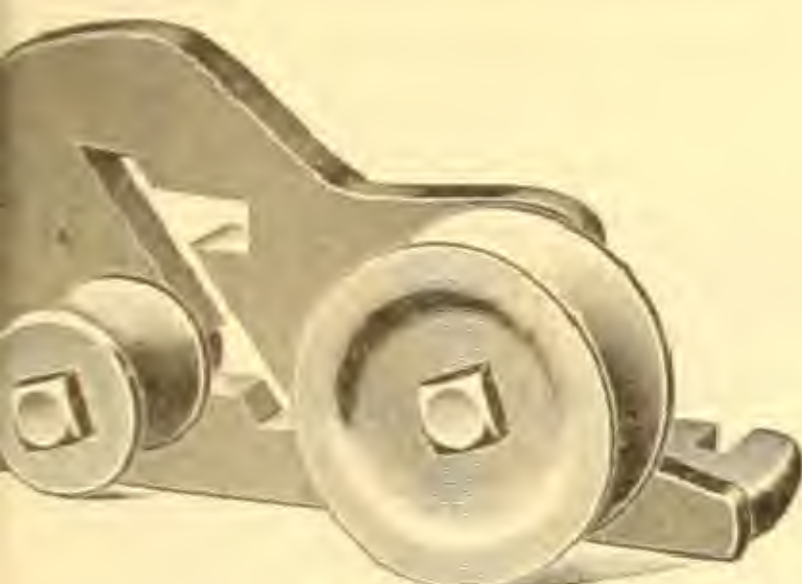
## CONDUIT BENDERS



FULLMAN BENDER



Lakin Hickey



Rex Bender



Rittenhouse Bender



Boss Hickey



Standard Elbow Former



Burring Reamer

### FULLMAN CONDUIT BENDERS

Trade No.	Mfrs. No.	Size Inches	No. of Degrees	Price Each
027047	900	1/2	90	\$3.20
027048	901	1/2	45	3.20
027049	902	3/4	90	4.30
027050	903	3/4	45	4.30

### LAKIN CONDUIT HICKEYS

Screw a piece of 1-inch pipe in the other end of coupling. Never necessary to throw away the hickey, even if the handle breaks; simply unscrew the coupling.

Trade No.	Size of Pipe Inches	Std. Pkg.	Price Each
020439	1/2	10	\$1.75
020440	3/4	5	2.25

### REX CONDUIT BENDERS

Trade No.	Description	Price Each
41825	For 3/8 to 1 1/4-inch conduit.	\$12.00

### RITTENHOUSE CONDUIT BENDERS

Trade No.	Mfrs. No.	Description	Price Each
020433	1	Complete, for 1/2-in. pipe	\$5.50
020434	1	Head only, tapped for 1 1/4-in. handle	4.00
020435	2	Complete, for 3/4-in. pipe	6.00
020436	2	Head only, tapped for 1 1/4-in. handle	4.50
020437	5	Adjustable, complete, for 1/2 or 3/4-in. pipe	7.50
020438	5A	Adjustable, head only, for 1/2 or 3/4-in. pipe	6.00

### BOSS SELF-ADJUSTING CONDUIT HICKEYS

This hickey will bend conduit in any shape from 3/8 to 1-inch, without having to be adjusted in any way. The natural pull on the handle fits the hickey to the conduit with a positive grip which prevents it from slipping.

Trade No.	Description	Wt. Lbs.	Price Each
41828	For 3/8 to 1-inch conduit	11	\$9.00

### STANDARD CONDUIT ELBOW FORMERS

This is a practical conduit elbow former, which forms standard shaped elbows perfectly and accurately, exactly where they are wanted. Saves time and also material by eliminating the waste of pipe.

Trade No.	Description	Price Each
020441	For 1/2 or 3/4-inch pipe	\$60.00

### BURRING REAMERS

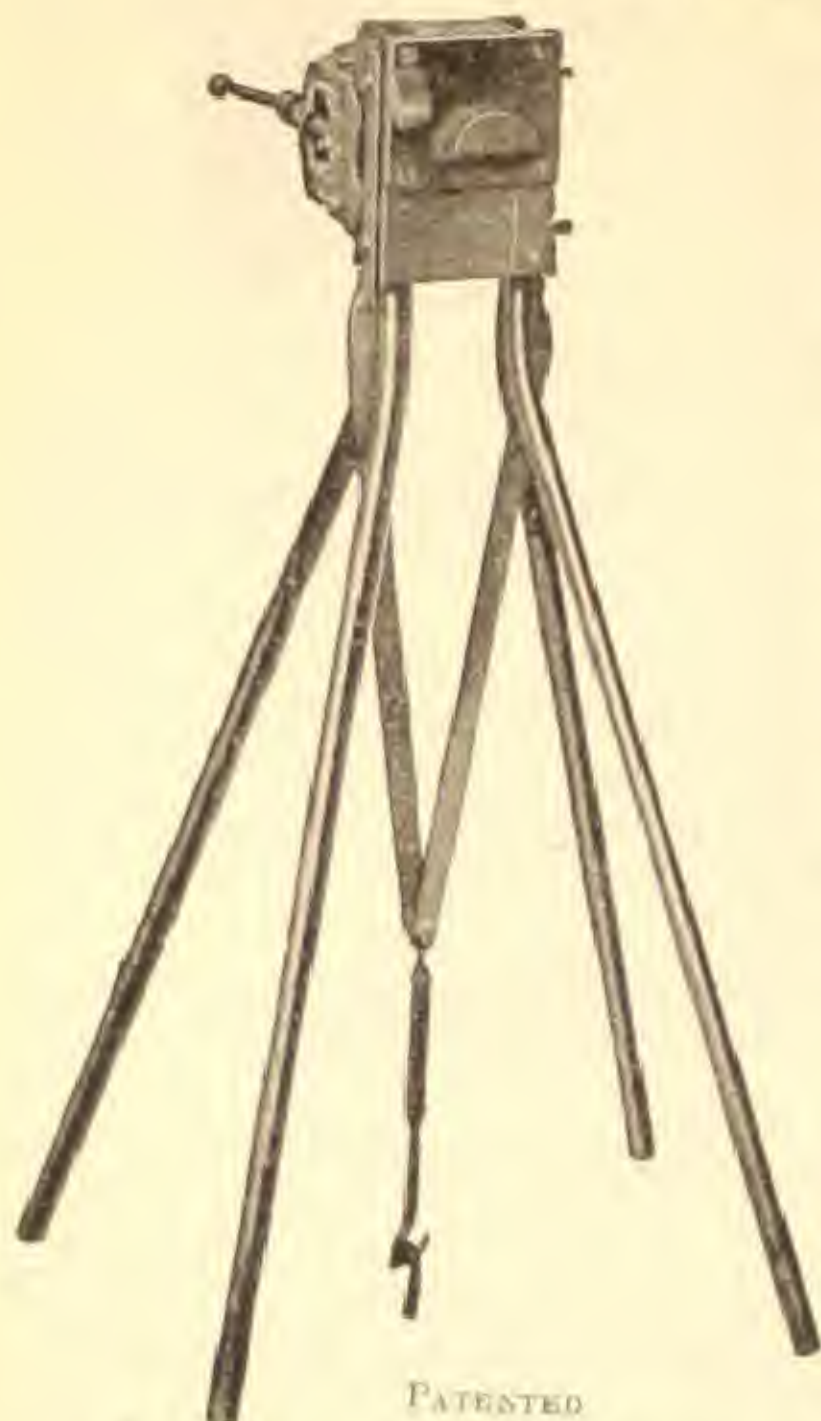
Trade No.	Capacity of Pipe, In.	Style Shank	Price Each
018843	1/8 to 1/2	Bit brace	\$2.00
018844	3/8 to 1	Bit brace	2.50
018845	1 to 2	Bit brace	7.00
018846	3/8 to 1	1/2-inch round	2.50



## PIPE VISES

## HENDERSON PORTABLE CONDUIT BENCHES

For Cutting, Threading and Bending Conduit



PATENTED

Bench Installed Ready for Use

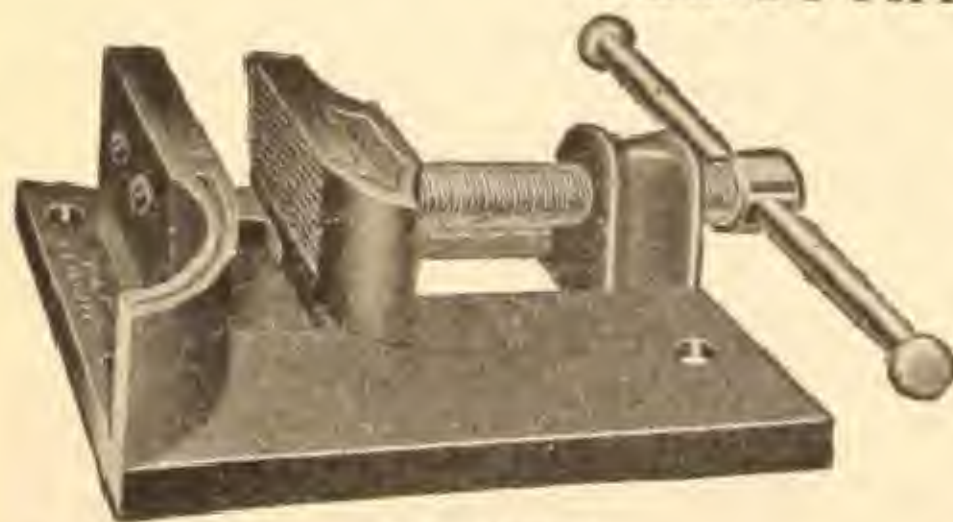
the workman. The pipe is fed into the bender about waist high, and by easy stages which prevents the pipe from kinking or flattening.

The side outlet on the bender is important as the pipe can be taken out easily at any time to check up measurements or when the bend is finished. The side outlet together with the carefully designed bending bosses will make the most complicated bends such as double elbow offsets in a length of conduit, right angle or more than right angle double offsets, etc.

Trade No.	Style No.	For Conduit Size, Inches	Height Inches	Floor Space Required, In.	Wt. Lbs.	Price Each
18874	0	1½ and smaller	45	22x22	28	\$28.00
18873	1	¾ and smaller	45	23x23	45	30.00
18875	2	1½ and smaller	45	26x26	170	120.00

Style No. 2 has separate detachable bending blocks for each size conduit, a complete set of which is furnished with each bench.

## DANDY PIPE VISE AND BENDER



No. 020284

Trade No.

020284

Pipe vise and bender.

This device will enable a workman to handle one-third more pipe in a day than he could ordinarily. Will bend pipe faster than is possible with a hickey, and every bend is perfect.

Clean the threads, ream and bend before removing pipe from the vise.

It is impossible to kink the pipe with this machine.

Description

Price Each

\$7.50



Bench Folded With Legs Reversed

Made on  
and  
using  
lead  
conduit

Type X  
very suitable  
plate. T  
Make  
Henderson  
opening  
back up men  
service and  
mounting sh

Co

E. 2. B

Trade No.  
020284  
020285  
020286  
020287  
020288  
Size  
Inches  
1  
1½  
2  
Made in  
13  
13  
2



## HENDERSON CONDUIT BENDERS

Made on an entirely new and patented principle. The bending grooves are a sliding fit for the conduit and as soon as the conduit starts to bend, it expands slightly sidewise, automatically gripping itself in the bending groove, holding the conduit firmly in position without slipping, until bend is completed. The deep bending and holding groove makes it impossible to kink or flatten conduit while it is being bent.

### X. L. BENDERS



Type X. L. is a stationary bender. Fastens with lag screws or bolts through the clearance holes, to any suitable support. Simple, powerful and efficient. Designed for the hardest service. Heavy cast iron plate. Three detachable bending blocks, as shown in illustration, for  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1-inch conduit. Makes any bend from a simple offset to a continuous spiral. Has all of the characteristics of Henderson conduit benders. Side outlet; conduit always in plain sight while bend is being made. Opening between the bending bosses makes it easy to take out the conduit at any time to check up measurements or when the bend is finished. Deep close fitting bending grooves, a distinctive and patented feature, which automatically grip the conduit while bending, absolutely preventing slipping, kinking and flattening. Uses up all of the short pieces.

	Description	Std. Pkg.	Price Each
2	Complete with lag screws	4	\$10.00



### E. Z. BENDERS

PATENTED

Type E. Z. is a combination hand hickey and stationary bender. Handles are not supplied. They should be from 3 to  $3\frac{1}{2}$  feet long. Bends elbows, offsets or any combination of elbows and offsets, quickly and accurately, without slipping or distorting the conduit in any way. Fasten bender head with the deep groove uppermost to a post or bench, with a lag screw through the clearance hole shown in the illustration and the hickey becomes a rigid stationary bender with the handle serving as a brace. Made in 3 sizes for hand and stationary bending of  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1-inch conduit.

E. Z. Bender

	Size Inches	Description	Std. Pkg.	Price Each
3	$\frac{1}{2}$	Threaded for 1-in. pipe handle	10	\$2.00
4	$\frac{3}{4}$	Threaded for $1\frac{1}{4}$ -in. pipe handle	5	2.50
5	1	Threaded for $1\frac{1}{2}$ -in. pipe handle	3	5.00
Made in 3 larger sizes for stationary bending of $1\frac{1}{4}$ , $1\frac{1}{2}$ and 2-inch conduit.				
6	$1\frac{1}{4}$	Threaded for 2-in. pipe brace	2	10.00
7	$1\frac{1}{2}$	Threaded for 2-in. pipe brace	2	15.00
8	2	Threaded for $2\frac{1}{2}$ -in. pipe brace	2	20.00



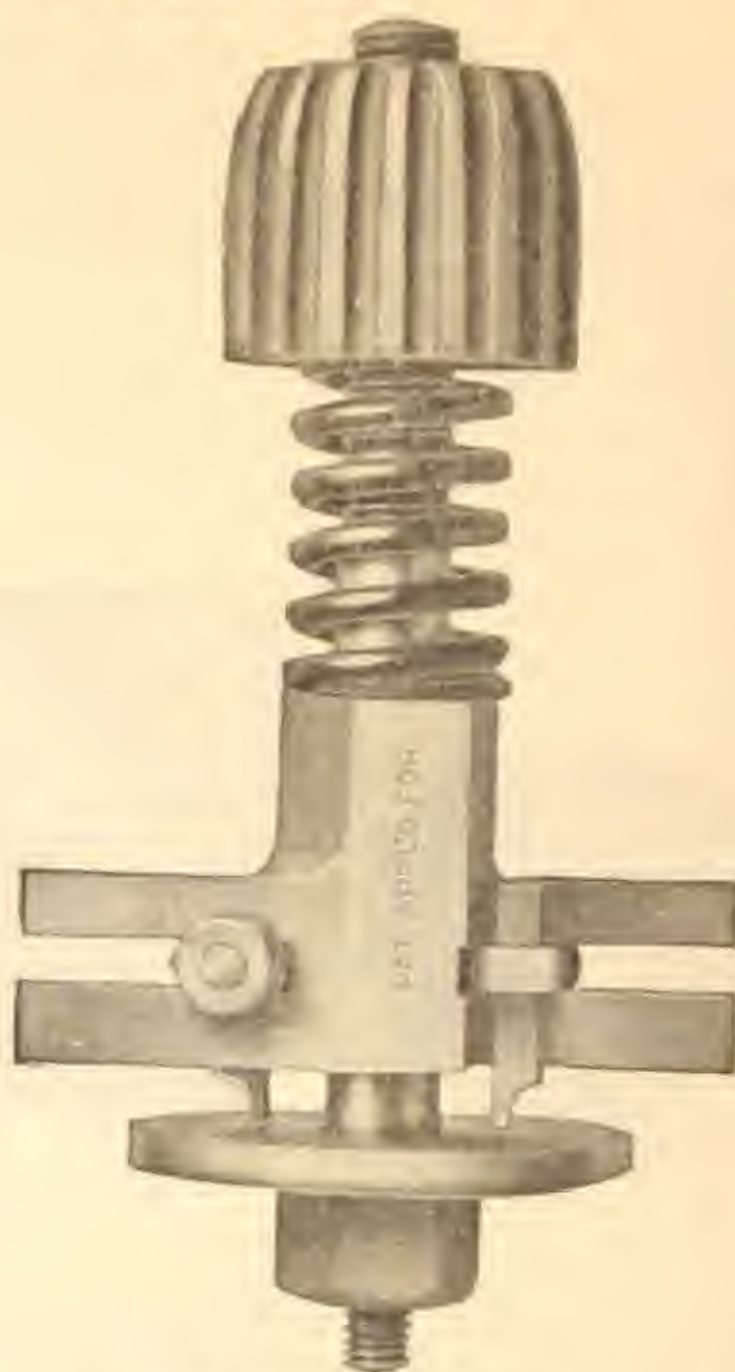
## JIFFY ADJUSTABLE CUTTERS



The Old Way—Slow and Costly



The New Way—Quick and Easy



Jiffy Adjustable Cutter

## CUTTER OUTFITS

The Jiffy Cutter is a compact portable tool for workshop or tool kit. It makes clean, perfect holes in steel cabinets and boxes, fiber, slate or marble, gasket material, sheet metal for special washers, asbestos board and automobile dashboards.

It can be used in any position—on the floor or overhead—on the job or at the shop bench.

Trade No.	Outfit No.	Description	Price Each
091703	1	Jiffy Cutter for holes $\frac{3}{4}$ to 3 inches in diameter....	\$30.00
091704	2	Jiffy Cutter for holes $1\frac{1}{8}$ to 6 inches in diameter....	40.00
091705	12	Jiffy Cutter, No. 1 complete with extra swing chuck from outfit No. 2 (both tools in, one), cuts holes from $\frac{3}{4}$ to $6\frac{1}{2}$ in. diam. ....	50.00

Outfits include cutter head complete, ratchet wrench, two knives, and small knife-holder wrench.

## CUTTER KNIVES

Trade No.	Description	Price Each
091706	Standard knives for material $\frac{3}{16}$ -in. thick..... per dozen	\$9.00
091707	Special $\frac{1}{2}$ -in. knives, for steel $\frac{1}{2}$ -inch thick..... per pair	2.50
091708	Special $\frac{3}{4}$ -in. knives, for cast iron $\frac{3}{4}$ -inch thick..... per pair	3.50
091711	Special 1-inch knives, for cutting instrument boards of automobiles..... per pair	3.50
091709	Special $1\frac{1}{4}$ -in. knives for asbestos board, slate, marble, per pair	5.00
091710	Extra long center stud for use with $1\frac{1}{4}$ -in. knives..... per pair	2.50

Perfect results are guaranteed only when Jiffy Knives are used, as they are correctly ground and tempered by experts.



Cutting a 3-inch Hole in a Steel Cabinet



# SOLDERING ACCESSORIES



Northern Soldering Paste



Northern Soldering Paste



Highland Paste



Crescent Paste



Star Paste



Allen's Paste



Tube Flux

## NORTHERN ELECTRIC SOLDERING PASTE

This is a superior quality of soldering paste. It will not corrode or injure in any way the material that is to be soldered. It takes the place of injurious acids and is equally effective. It may be applied with a rag, a stick, or even with the fingers. It is particularly intended for those who prefer a soldering flux in paste form rather than the soldering stick, and in cases where it is inconvenient to heat the joint in order to apply the stick flux. Furnished in tin boxes.

Trade No.	Size Box	Price Each	Trade No.	Size Box	Price Each
202693	2 oz.	\$0.20	202696	1 lb.	\$0.70
202694	4 oz.	.28	202697	5 lb.	2.85
202695	1/2 lb.	.46			

## HIGHLAND SOLDERING PASTE

202698	2 oz.	.27	202700	5 lb.	7.75
202699	1 lb.	1.55			

## CRESCENT SOLDERING PASTE

202701	2 1/2 oz.	.34	202703	1 lb.	1.00
202702	1/2 lb.	.65			

## STAR SOLDERING PASTE

202704	2oz.	.23	202706	1 lb.	.90
202705	4oz.	.34			

## ALLEN'S SOLDERING PASTE

202707	2oz.	.45	202709	1 lb.	2.20
202708	4oz.	.80			

## YAGER'S SOLDERING PASTE

202710	2 oz.	.28	202712	1 lb.	1.30
202711	1/2 lb.	.90			

All the above brands of soldering paste are furnished in tin containers.

## TUBE FLUX

A soldering flux, not a substitute for solder. Non-corrosive. The spout in tube is aluminum, and allows the paste to be applied directly to the joint at the same time as the heat without soldering up the vent.

Trade No.	Description	Price Each
202713	Tube Flux	\$0.55



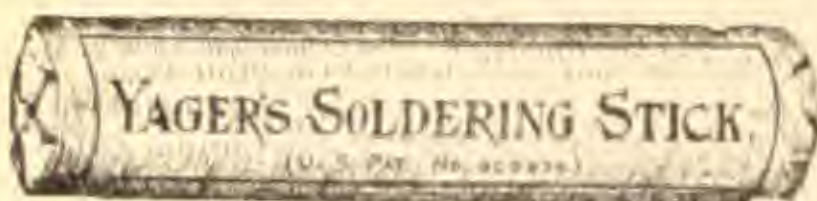
## SOLDERING ACCESSORIES



Northern Electric Soldering Stick



Star Soldering Stick



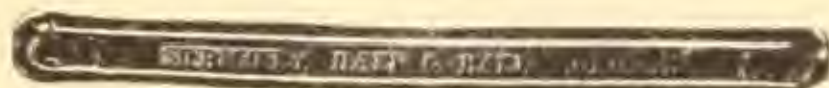
Yager Soldering Stick



Northern Electric Soldering Salt



Solderall



Bar Solder



Wire Solder



Resin Core Solder



Crescent Soldering Stick



Allen Soldering Stick

## NORTHERN ELECTRIC SOLDERING STICKS

This soldering stick is made under the same formula as our paste and put up in a neat, substantial package. Its use is very convenient as it can be carelessly carried in the workman's tool kit or pocket. To apply this stick it is only necessary to heat the joint to be soldered and rub it with the bared end of the stick.

Trade No.	Description	Price Each
202724	Northern Electric	\$0.30

## MISCELLANEOUS SOLDERING STICKS

202725	Crescent	\$0.30
202726	Star	30
202727	Allen's	50
202728	Yager's	50

## NORTHERN ELECTRIC SOLDERING SALT

Our soldering salt combines in soluble crystal form the most efficient soldering agents known to chemistry. It dissolves readily in water, and does not give off any obnoxious odors or gases. Directions for dissolving in water to make a soldering agent of proper strength are included with each package.

Trade No.	Size Container	Price Each	Trade No.	Size Container	Price Each
202729	1/2 lb.	\$0.60	206854	5 lb.	\$3.30
202730	1 lb.	.85			

## MISCELLANEOUS SOLDERING SALTS

Crescent					
Trade No.	Size Container	Price Each	Trade No.	Size Container	Price Each
202731	1/2 lb.	\$0.50	206855	1 lb.	\$0.70
Allen					
202732	1/2 lb.	1.25	206856	5 lb.	8.10
202733	1 lb.	1.70			
Yager					
202734	1/2 lb.	.70	206857	5 lb.	4.85
202735	1 lb.	1.10			

## SOLDERALL

A complete solder and non-corrosive fluid. Combined in paste form and put up in convenient collapsible tubes.

Trade No.	Description	Price per Doz.
202736	Solderall	\$9.00

## BAR AND WIRE SOLDER

Trade No.	Description	Price per Lb.
202737	Strictly half and half bar solder.	
202738	Strictly half and half wire solder.	

## NORTHERN ELECTRIC RESIN CORE SOLDER

Trade No.	Size Container	Price Each	Trade No.	Size Container	Price Each
202739	1/2 lb. box		202745	5 lb. spool	
202740	1 lb. spool		202746	10 lb. spool	
202741	2 lb. spool				

## CABLE SOLDER

Trade No.	Description	Price per Lb.
202742	Cable Solder	



## NORTHERN ELECTRIC TAPES AND SPLICING COMPOUNDS



Nor-El-Co Friction Tape



Victor Splicing Compound

Northern Electric Friction Tapes and Splicing Compounds enjoy a most enviable reputation throughout the Dominion, having been used constantly for years by most of the large tape consumers. Tapes and splice are manufactured to rigid specifications and a thorough system of factory inspection insures for our products a high and uniform quality not found in any other brands.

These tapes and splicing compounds are guaranteed not to contain any compounds which will act injuriously on copper wire.

To meet the varied requirements of our customers we market three grades of friction tape and two grades of splicing compounds which bear the following trade names.

**FRICTION TAPE.**—Northern Grade A, Nor-El-Co and Nor-El-Co Tire Tape.

**SPLICING COMPOUND.**—Northern Special and Victor.

Our standard practice is to supply tape and splice in half-pound rolls,  $\frac{3}{4}$  inch wide with the exception of Nor-El-Co Tire Tape which can be furnished  $\frac{3}{4}$  inch wide in one, two or four-ounce rolls. All rolls are carefully wrapped in tin foil and enclosed in cardboard cartons.



## NORTHERN ELECTRIC TAPES AND SPLICING COMPOUNDS



Northern Friction Tape



Nor-El-Co Friction Tape



Nor-El-Co Tire Tape



Northern Special Splice



Victor Splicing Compound

## NORTHERN ELECTRIC GRADE A FRICTION TAPES

The base of this tape is a closely woven unbleached cotton sheeting, thoroughly impregnated with a special insulating compound. Tests have shown this tape to withstand 6000 volts before puncturing.

Trade  
No.  
202758

Price  
per Pound  
\$0.75

## NOR-EL-CO FRICTION TAPES

The fabric in this tape will not deteriorate with age and like all Northern Tapes it will not dry out within a year if left in the original package. Possesses exceptional sticking properties and taken all around is an excellent low price tape.

Trade  
No.  
202759

Price  
per Pound  
\$0.50

## NOR-EL-CO TIRE TAPES

A regular grade C tape put up in rolls weighing one, two or four ounces as desired. Furnished with customer's own name printed on box if ordered in suitable quantities.

Trade  
No.  
202760

Price  
per Pound  
\$0.50

## SPLICING COMPOUNDS

## Northern Special Splice

A very tough compound, the basis of which is high grade Para rubber which is toughened and has its insulation resistance increased by the other components.

Trade  
No.  
202761

Price  
per Pound  
\$1.00

## Victor Splice

This grade of splicing compound is coated on red Holland sheeting the thickness being about .048 inch. It has a high insulation resistance, .048 inch showing a resistance of 10,000 volts at five amperes. Has not the stretching properties of the better grades, but is a good all around splice for general work.

Trade  
No.  
202762

Price  
per Pound  
\$0.50



# HOPE TAPE, WEBBING AND SLEEVING

## LINEN FINISHED TAPE, .007 THICK

Extra		Special		Standard		Light Weight	
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Trade No.	Mfrs. No.
11356	23814	.....	.....	11365	13869	144669	11822
11357	23815	.....	.....	144740	19002	144670	11821
11358	23816	11362	7118	11320	13870	144671	11820
.....	.....	.....	.....	144741	15845	144745	18802
11359	23817	11314	7650	144666	13871	144672	14002
.....	.....	.....	.....	144742	14769	144746	14839
.....	.....	.....	.....	144667	13872	144673	14003
.....	.....	.....	.....	144668	17974	144747	18125

## THIN LINEN FINISHED TAPES

Standard		Special		Silk	
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Trade No.	Mfrs. No.
205227	25001	.....	.....	205232	24931
144675	8769	.....	.....	205233	24932
.....	.....	.....	.....	205234	24933
144676	8841	.....	.....	205235	24934
205228	25002	.....	.....	205236	24935
205229	25003	144682	15018	205237	24936
205230	25004	.....	.....	.....	.....
144680	8844	144683	16061	205238	24937
205231	25005	.....	.....	.....	.....

## WEBBING

Star		Common		Fine		Width Inches	Extra Heavy		Heavy	
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Trade No.	Mfrs. No.		Trade No.	Mfrs. No.	Trade No.	Mfrs. No.
205239	22386	205241	25006	205244	21787	1 1/2	.....	.....	205266	23688
144689	22390	205242	25007	144699	21790	5/8	205246	20376	205249	18376
144690	22392	205243	25008	144700	21792	3/4	144703	19451	144705	18375
144691	22394	144696	13100	144701	21794	1	144743	7251	144706	8730
205240	22396	.....	.....	205245	21796	1 1/4	144744	11838	144707	9982
144692	22398	144698	16628	144702	21798	1 1/2	144704	1258	144708	1613
.....	.....	.....	.....	.....	.....	1 3/4	205251	7252	205252	17973
.....	.....	.....	.....	.....	.....	2	205267	6352	144710	9999
.....	.....	.....	.....	.....	.....	2 1/2	205247	25301	.....	.....
.....	.....	.....	.....	.....	.....	3	205248	25302	205250	18178
Light Stay		Std. Surgical		Spec. Surgical		Width Inches	Std. Non		Spec. Non	
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Trade No.	Mfrs. No.		Trade No.	Mfrs. No.	Trade No.	Mfrs. No.
.....	.....	144738	7699	.....	.....	1 1/2	205253	25014	205260	24732
.....	.....	144739	18460	.....	.....	3/8	205254	25015	.....	.....
.....	.....	11330	5281	144718	19003	3/4	205255	25016	205261	25020
11325	6291	11331	5224	.....	.....	7/8	205256	25017	.....	.....
11326	6290	11332	5298	1	144719	15618	205257	25018	144733	13238
11327	6289	144713	8870	1 1/4	144720	19004	11335	4096	144734	14671
11328	4544	144714	9058	1 1/2	144721	18146	205258	25019	205262	25021
.....	.....	144715	10449	1 3/4	.....	.....	144730	4097	205263	20913
.....	.....	144716	15859	2	144722	18486	144731	4098	144736	19006
144712	15020	144717	15861	2 1/4	144723	19750	205259	15070	205264	20914
.....	.....	.....	.....	2 1/2	144724	16139	.....	.....	205265	20915
.....	.....	.....	.....	2 3/4	144725	16130	.....	.....	.....	.....
.....	.....	.....	.....	3	144726	19483	.....	.....	.....	.....

## GRAY COTTON SLEEVING

Trade No.	Mfrs. No.	Covers Size Wire	Yards per Lb.	Trade No.	Mfrs. No.	Covers Size Wire	Yards per Lb.
1737	0	14, 20	600	11348	8	1 and 2	75
1341	1	11, 12, 13	240	11349	9	1 and 2	105
1342	2	7, 8, 9	180	11350	10	1 and 0	63
1343	3	9 and 10	175	11351	11	1 and 0	60
1344	4	5, 6, 7	210	11352	12	2 No. 0	50
1345	5	5	115	11353	13	6 and 7	160
1346	6	3 and 4	110	.....	.....	.....	.....

In 1-pound rolls only.

†No. 4 can be furnished from stock in red, blue and black colors as well as gray.



## INSULATING AND FRICTION PAPER

## RED ROPE PAPER

Mico Red Rope Paper is manufactured from an all hemp stock of long fibre, free from pin holes and guaranteed to contain no wood pulp.

Trade No.	Mfrs. No.	Thickness Inches	Width of Roll, In.	APPROX. WEIGHT, POUNDS			Price per lb.
				Per Roll	Per 100 Sq. Yds.	Per Sheet	
16690	2629	.005	36	100	27	.....	\$0.30
16691	2630	.010	36	100	47	.....	.30
16692	2631	.015	36	100	69	.....	.30

## PRESSBOARD

Mico Pressboard, also known as Fullerboard, is a smooth, tough, dense, yellow, highly glazed especially prepared insulating board made from cotton fibre, more pliable and not as hard as fibre, and a better insulator. It can be furnished in rolls in thicknesses up to .017, at slight increase in prices. Fullerboard can be furnished faced with mica.

16697	2650	.008	.....	.....	.....	46	30
16698	2651	.010	.....	.....	.....	58	30
16700	2653	.015	.....	.....	.....	83	30
16702	2655	.020	.....	.....	.....	1.10	30
16716	2657	.025	.....	.....	.....	1.4	30
16717	2659	$\frac{1}{32}$	.....	.....	.....	2.00	30
16718	2660	$\frac{1}{16}$	.....	.....	.....	3.35	30
16719	2662	$\frac{1}{8}$	.....	.....	.....	6.40	30

Pressboard is furnished in sheets approximately 30x36 inches.

## FISH PAPER

Mico Fish Paper is an extremely tough, strong and dense paper made of cotton rag stock. Its resistance to heat and mechanical injury such as bending, creasing and abrasion is greater than any other insulating material.

16704	2670	.005	46	50	28	.....	.60
16705	2671	.007	46	50	38	.....	.60
16706	2672	.010	46	50	53	.....	.60
16707	2673	.015	46	50	83	.....	.60
16708	2674	.020	.....	.....	.....	1.42	.60
16709	2675	.025	.....	.....	.....	1.90	.60
16710	2676	$\frac{1}{32}$	.....	.....	.....	2.25	.60
16720	2679	$\frac{1}{16}$	.....	.....	.....	4.5	.60

Nos. 2674, 2675, 2676 and 2679 are furnished in sheets approximately 36x48 inches.

## HORN FIBRE

Horn Fibre is not chemically treated, but is made from a strong hemp stock which is hydrated by prolonged beating. It is very flexible and ductile, and can be pressed into shapes like armature slots, etc., without cracking.

16711	2692	.005	42	100	21	.....	.80
16712	2693	.010	42	100	50	.....	.80
16713	2694	.015	42	100	60	.....	.80
16714	2695	.020	42	100	100	.....	.80
16715	2696	.025	42	100	112	.....	.80
16721	2697	.030	42	100	150	.....	.80
16722	2698	$\frac{1}{16}$	42	100	300	.....	.80

## CROCUS CLOTH

Trade No.		Price per Ream
063207	In sheets 9x11 inches.	\$26.50

## SAND PAPER

In Sheets 8 $\frac{3}{4}$ x10 $\frac{1}{2}$  Inches

Trade No.	Mfrs. No.	Price per Ream*
063183	00	\$4.25
063184	0	4.25
063185	$\frac{1}{2}$	4.25
063186	1	4.75
063187	1 $\frac{1}{2}$	4.75
063188	2	4.75
063189	2 $\frac{1}{2}$	5.25
063190	3	5.25

\*A ream is 480 sheets.

## EMERY PAPER

In Sheets 9x11 Inches

Trade No.	Mfrs. No.	Price per Ream
063191	00	\$10.25
063192	0	10.25
063193	$\frac{1}{2}$	10.25
063194	1	12.00
063195	1 $\frac{1}{2}$	12.75
063196	2	13.50
063197	2 $\frac{1}{2}$	15.50
063198	3	18.25

## EMERY CLOTH

In Sheets 9x11 Inches

Trade No.	Mfrs. No.	Price per Ream
063199	00	\$26.50
063200	0	26.50
063201	$\frac{1}{2}$	26.50
063202	1	28.50
063203	1 $\frac{1}{2}$	29.75
063204	2	30.75
063205	2 $\frac{1}{2}$	33.00
063206	3	35.25



# INSULATING MATERIAL

## VULCANIZED FIBER

### Red, Black or Gray Sheets

Trade No.	Thickness Inches	Price per Lb.	Trade No.	Thickness Inches	Price per Lb.	Trade No.	Thickness Inches	Price per Lb.
42504	.005	\$1.50	105185	.075	\$1.00	5423	$\frac{7}{8}$	\$1.28
5414	.010	1.30	105186	.100	1.00	5424	1	1.42
5415	.015	1.10	5418	$\frac{1}{8}$	1.00	105188	$1\frac{1}{8}$	1.70
42505	.020	1.00	42491	$\frac{3}{16}$	1.02	5425	$1\frac{1}{4}$	2.00
105181	.025	1.00	5419	$\frac{1}{4}$	1.02	105189	$1\frac{3}{8}$	2.40
5416	.030	1.00	105187	$\frac{5}{16}$	1.02	105190	$1\frac{1}{2}$	2.90
105182	.035	1.00	42492	$\frac{3}{8}$	1.02	105191	$1\frac{5}{8}$	3.50
105183	.040	1.00	5420	$\frac{1}{2}$	1.06	105192	$1\frac{3}{4}$	4.50
105184	.045	1.00	42494	$\frac{5}{8}$	1.12	105193	$1\frac{7}{8}$	6.50
5417	.060	1.00	5422	$\frac{3}{4}$	1.18	105194	2	8.50

Intermediate sizes at price of next thinner, except that on sizes from  $\frac{1}{8}$ -inch and up a variation of .015 inch or less will not be considered intermediate, and will take the price of the nearest standard thickness. Extra charge for cutting.

### Approximate Weight of Sheets

Thickness Inches	Weight Pounds	Thickness Inches	Weight Pounds	Thickness Inches	Weight Pounds	Thickness Inches	Weight Pounds	Thickness Inches	Weight Pounds
.005	.8	.035	5.6	$\frac{1}{8}$	20	$\frac{5}{8}$	100	$1\frac{3}{8}$	215
.010	1.6	.040	6.4	$\frac{3}{16}$	30	$\frac{3}{4}$	120	$1\frac{1}{2}$	235
.015	2.4	.045	7.2	$\frac{1}{4}$	40	$\frac{7}{8}$	138	$1\frac{5}{8}$	250
.020	3.2	.060	9.6	$\frac{5}{16}$	50	1	155	$1\frac{3}{4}$	275
.025	4.	.075	12.	$\frac{3}{8}$	60	$1\frac{1}{8}$	175	$1\frac{7}{8}$	290
.030	4.8	.100	16.	$\frac{1}{2}$	80	$1\frac{1}{4}$	195	2	315

### Approximate Size of Sheets

.005 to .120 inch thick, 48x80 inches;  $\frac{1}{8}$  to  $\frac{3}{4}$  inch thick, 44x70 inches;  $\frac{5}{16}$  to 2 inches thick, 46x76 inches.

We can also furnish fiber up to .025 inch thick, in rolls about 46 inches wide.

### Red, Black or Gray Rod

Trade No.	Diameter Inches	Price per Ft.	Trade No.	Diameter Inches	Price per Ft.	Trade No.	Diameter Inches	Price per Ft.
42495	$\frac{3}{16}$	\$0.30	06726	$\frac{11}{16}$	\$1.00	42499	$1\frac{3}{8}$	\$ 5.00
5719	$\frac{1}{4}$	.32	06727	$\frac{3}{4}$	1.20	06731	$1\frac{1}{2}$	6.00
5720	$\frac{5}{16}$	.36	42496	$\frac{9}{16}$	1.44	42500	$1\frac{5}{8}$	7.00
5721	$\frac{3}{8}$	.40	06728	$\frac{7}{8}$	1.68	42501	$1\frac{3}{4}$	10.00
5722	$\frac{7}{16}$	.48	42497	$\frac{5}{8}$	2.00	42502	$1\frac{7}{8}$	16.00
5723	$\frac{1}{2}$	.60	06729	1	2.40	42503	2	24.00
5724	$\frac{9}{16}$	.72	42498	$1\frac{1}{8}$	3.00	....	....	....
5725	$\frac{5}{8}$	.84	06730	$1\frac{1}{4}$	4.00	....	....	....

Intermediate sizes take list of next larger.

### Tube

Trade No.	Inside Diam., In.	$\frac{1}{8}$ -in. Wall	$\frac{3}{16}$ -in. Wall	$\frac{1}{2}$ -in. Wall	$\frac{3}{4}$ -in. Wall	$\frac{1}{2}$ -in. Wall	$\frac{3}{4}$ -in. Wall	$\frac{1}{2}$ -in. Wall
5733	$\frac{1}{4}$	\$0.20	\$0.28	0.36	\$0.44	\$0.52	....	....
5734	$\frac{3}{8}$	.22	.32	.42	.52	.62	....	....
5735	$\frac{1}{2}$	.24	.36	.48	.60	.72	.84	.96
5736	$\frac{5}{8}$	.28	.42	.56	.70	.84	.98	1.12
5737	$\frac{3}{4}$	.32	.48	.64	.80	.96	1.12	1.28
5738	1	.40	.60	.80	1.00	1.20	1.40	1.60
5739	$1\frac{1}{4}$	.48	.72	.96	1.20	1.44	1.68	1.92
5740	$1\frac{1}{2}$	.56	.84	1.12	1.40	1.68	1.96	2.24

Prices for intermediate and larger sizes quoted on application.

## ASBESTOS PAPER

Trade No.	Thickness Inches	Wt., Lbs. per 100 Ft.	Price per Lb.	Trade No.	Thickness Inches	Wt., Lbs. per 100 Ft.	Price per Lb.
53221	$\frac{1}{32}$	16	\$0.50	063223	$\frac{3}{32}$	45	\$0.50
53222	$\frac{1}{16}$	30	.50	063224	$\frac{1}{8}$	60	.50

In rolls 36 inches wide, 100 pounds each.

## ASBESTOS SHEET MILLBOARD

### In Sheets 42x54 Inches

Trade No.	Thickness Inches	Wt., Lbs. per Sheet	Price per Lb.	Trade No.	Thickness Inches	Wt., Lbs. per Sheet	Price per Lb.
53225	$\frac{1}{32}$	2	\$0.50	063230	$\frac{3}{16}$	12	\$0.50
53226	$\frac{1}{16}$	3	.50	063231	$\frac{1}{4}$	14	.50
53227	$\frac{1}{8}$	4	.50	063232	$\frac{3}{8}$	23	.50
53228	$\frac{1}{4}$	6	.50	063233	$\frac{1}{2}$	27	.50
53229	$\frac{1}{2}$	8	.50	.....	....	...	....



## INSULATING MATERIAL

## Nos. 1 AND 11 INDIA MICANITE PLATE

## For Molding

No. 1 India Micanite Plate has a smooth surface which does not show any detrimental amount of loose laminations. It softens sufficiently at 140 degrees C. or 284 degrees F. to be readily molded to ordinary shapes without chipping, cracking or breaking.

It is carefully milled to specified thickness, allowing a variation of .002-inch in isolated spots on the thin sizes below .060-inch, and from .003-inch to .005-inch on sizes .060-inch and up.

Average puncture voltage per .001-inch runs from 900 volts on the thinner sizes to 800 volts on the thicker sizes.

It must not be used for insulation between copper bars of commutators.

No. 11 India Micanite Plate is made of the same quality of mica films and cement that are used in our No. 1 Plate, but it is not as exact to thickness, and is not made in as many thicknesses. It varies in thickness from plus or minus .003-inch in the case of the .010-inch thick; .005-inch in the case of the  $\frac{1}{32}$ -inch; to plus or minus .010-inch in the case of the  $\frac{1}{8}$ -inch thick.

It becomes flexible when heated, is readily formed into shapes, and is suitable for all general purposes where a variation in thickness is permissible, except for commutator segments, for which it is not intended.

Average puncture voltage 800 to 900 volts per .001-inch.

No. 1						No. 11					
Thickness Inches	MM.	Approx. Lbs. per Sheet	Trade No.	Mfrs. No.	Price per Lb.	Thickness Inches	MM.	Approx. Lbs. per Sheet	Trade No.	Mfrs. No.	Price per Lb.
.020	0.508	1.05	041468	1202	\$2.75	.010	0.254	.503	041514	1218	\$2.50
.025	0.635	1.3	041469	1203	2.55	.015	0.381	.748	041515	1219	2.40
.030	0.762	1.6	041470	1204	2.10	.020	0.508	.946	041516	1220	2.10
$\frac{1}{32}$	0.79	1.7	041471	1205	2.10	$\frac{1}{32}$	0.79	1.64	041519	1223	1.70
.035	0.889	1.85	041472	1206	2.10	$\frac{3}{64}$	1.185	2.42	041523	1227	1.60
.040	1.016	2.1	041473	1207	1.95	$\frac{1}{16}$	1.58	3.32	041527	1231	1.45
.045	1.143	2.35	041474	1208	1.95	$\frac{3}{32}$	2.38	4.92	041530	1234	1.45
$\frac{3}{64}$	1.185	2.5	041475	1209	1.95	$\frac{1}{8}$	3.17	6.22	041531	1235	1.45
.050	1.27	2.65	041476	1210	1.95	.....	.....	.....	.....	.....	.....
$\frac{1}{16}$	1.58	3.3	041479	1213	1.70	.....	.....	.....	.....	.....	.....
$\frac{3}{32}$	2.38	5	041482	1216	1.70	.....	.....	.....	.....	.....	.....
$\frac{1}{8}$	3.17	6.5	041483	1217	1.70	.....	.....	.....	.....	.....	.....

Nos. 1 and 11 Micanite Plate furnished in special thicknesses, sizes and patterns.  
Prices quoted upon application.

## No. 2 INDIA MICANITE PLATE

## For Commutator Segment Insulation

No. 2 Micanite Plate is made of India Mica, as this variety is recognized as standard for electrical insulation where muscovite mica is used.

It is closely milled and the average thickness will not vary more than .0005-inch from specified thickness. Individual plates will not vary more than .001-inch above or .0015-inch below thickness specified in isolated spots. It cannot be molded.

Its average puncture voltage per .001-inch runs from 900 volts on the thinner sizes, to 800 volts on the thicker sizes.

Trade No.	Mfrs. No.	THICKNESS		Approx. Lbs. per Sheet	Price per Lb.
		Inches	MM.		
041486	1238	.020	0.508	1.2	\$2.65
041487	1239	.025	0.635	1.5	2.45
041488	1240	.030	0.762	1.8	2.20
041489	1241	$\frac{1}{32}$	0.79	1.9	2.20
041490	1242	.035	0.889	2.1	2.20
041491	1243	.040	1.016	2.4	1.90
041492	1244	.045	1.143	2.7	1.90
041493	1245	$\frac{3}{64}$	1.185	2.85	1.90
041494	1246	.050	1.27	3.	1.90
041496	1248	.060	1.524	3.6	1.90
041497	1249	$\frac{1}{16}$	1.58	3.8	1.90

No. 2 Micanite Plate can be furnished in special thicknesses, sizes, or patterns.  
Prices quoted upon application.



## INSULATING MATERIAL

### No. 3 AMBER MICANITE PLATE

#### For Commutator Segment Insulation

No. 3 Amber Micanite Plate is made of phlogopite or amber mica, which is softer than the muscovite and presents less liability of failure to wear down evenly with the copper bars.

It is closely milled and the average thickness will not vary more than .0005-inch from the specified thickness. Individual plates will not vary in isolated spots more than .001-inch above or .0015-inch below thickness specified. It cannot be molded.

Its average puncture voltage per .001-inch runs from 850 volts on the thinner sizes, to 700 volts on the thicker sizes.

Trade No.	Mfrs. No.	THICKNESS		Approx. Lbs. per Sheet	Price per Lb.
		Inches	MM.		
1502	1272	.020	0.508	1.2	\$4.75
1503	1273	.025	0.635	1.5	4.50
1504	1274	.030	0.762	1.8	4.25
1505	1275	$\frac{1}{32}$	0.79	1.9	4.25
1506	1276	.035	0.889	2.1	4.25
1507	1277	.040	1.016	2.4	4.00
1508	1278	.045	1.143	2.7	4.00
1509	1279	$\frac{3}{64}$	1.185	2.85	4.00
1510	1280	.050	1.27	3.	4.00
1512	1282	.060	1.524	3.6	4.00
1513	1283	$\frac{1}{16}$	1.58	3.8	4.00

No. 3 Micanite Plate can be furnished in special thicknesses, sizes and patterns. Prices quoted upon application.

### No. 4 MICANITE PLATE

#### For Flat Work

This plate is made for flat work and for purposes where accuracy of thickness is not important. It is not milled or surfaced and therefore has a considerable variation in thickness.

It is suitable for all kinds of bases, round or square washers, and for all kinds of apparatus subject to high heat.

Its non-liability to fracture under extreme vibration is a valuable feature for marine work. It does not take a screw thread, but can be drilled and turned.

Average puncture voltage, approximately 800 volts per .001-inch.

No. 4 plate is not furnished thinner than  $\frac{1}{16}$ -inch.

Trade No.	Mfrs. No.	THICKNESS		Approx. Lbs. per Sheet	Price per Lb.
		Inches	MM.		
1382	1296	$\frac{1}{16}$	1.58	3.25	\$1.25
1383	1297	$\frac{3}{32}$	2.38	4.87	1.25
1384	1298	$\frac{1}{8}$	3.17	6.5	1.25
1385	1299	$\frac{3}{16}$	4.76	9.75	1.25
1386	1300	$\frac{1}{4}$	6.34	13.	1.25
1387	1301	$\frac{3}{8}$	9.52	19.5	1.25
1388	1302	$\frac{1}{2}$	12.69	26.	1.25

Prices on sheets of No. 4 Micanite Plate, of special size and pattern quoted upon application.

### No. 5 FLEXIBLE MICANITE PLATE

#### For Cold Forming

No. 5 Flexible Micanite is made of very thin films of muscovite mica cemented together with a special insulating cement of great flexibility and adhesiveness. This article in many ways presents mica in its most convenient and economical form for electrical insulation. It can be formed or bent to shape without application of heat.

It is an excellent insulator for armature slots, armature, magnet and commutator cores, transformers, field coils, etc.

No. 5 Flexible Micanite Plate cannot be surfaced like No. 1, No. 2, or No. 3 plate. It is therefore subject to some variation in thickness, running from .002-inch to .003-inch on the thinner sizes; from .005-inch to .007-inch on the  $\frac{1}{32}$ -inch thickness, and from .010-inch to .015-inch on the  $\frac{1}{8}$ -inch thickness.

Its average puncture voltage is approximately 600 volts per .001-inch.

Trade No.	Mfrs. No.	THICKNESS		Approx. Lbs. per Sheet	Price per Lb.
		Inches	MM.		
1389	1303	.005	0.127	.55	\$3.15
1390	1304	.010	0.254	1.	2.00
1391	1305	.015	0.381	1.45	1.75
1392	1306	.020	0.508	1.9	1.75
1393	1307	.025	0.635	2.3	1.60
1395	1309	$\frac{1}{32}$	0.79	3.	1.60
1399	1313	$\frac{1}{16}$	1.58	6.	1.55
1400	1314	$\frac{1}{8}$	3.17	12.	1.55

Prices on No. 5 Micanite plate of special thickness, size, or pattern, quoted upon application.



## INSULATING MATERIAL

## LINOTAPE—VARNISHED CAMBRIC

Linotape is the registered trade mark name under which Empire Oiled Cloth in tape form is sold. Tape is cut in any width from  $\frac{3}{8}$ -inch and above, from all grades of yellow Empire, and black Kablak insulating material.

Linotape is an insulating tape of the highest order. Its virtue rests in the multiplication of oxidized oil films on its surfaces. It has come into general use as the insulating medium for cables of all descriptions, and is used extensively in coil winding, cable splicing, bus bars, and all high tension work.

It is furnished in rolls guaranteed to contain 72 lineal yards, each roll coated on the edges with paraffin to exclude moisture. Both straight and bias Linotape are continuous in the roll.

## Linotape—Bias Cut

Yellow							Black						
No. 72—Thickness, .007 In.				No. 10—Thickness, .010 In.			No. 763—Thickness, .007 In.			No. 99—Thickness, .010 In.			
Width Inches	Trade No.	Mfrs. No.	Price per 144 Yds.	Trade No.	Mfrs. No.	Price per 144 Yds.	Trade No.	Mfrs. No.	Price per 144 Yds.	Trade No.	Mfrs. No.	Price per 144 Yds.	
$\frac{3}{8}$	041565	1600	\$1 25	041577	1630	\$1 45	198440	1640	\$1 25	198446	1650	\$1 45	
$\frac{1}{2}$	041566	1601	1 45	041578	1631	1 65	198441	1641	1 45	198447	1651	1 65	
$\frac{3}{4}$	041568	1603	2 05	041580	1633	2 25	198442	1643	2 05	198448	1653	2 25	
1	041570	1605	2 60	041582	1635	2 90	198443	1645	2 60	198449	1655	2 90	
$1\frac{1}{4}$	041571	1606	3 25	041583	1636	3 65	198444	1646	3 25	198450	1656	3 65	
$1\frac{1}{2}$	041572	1607	3 90	041584	1637	4 35	198445	1647	3 90	198451	1657	4 35	
Weight per gross yard, 1-inch wide 1.52 lbs.				2.1 lbs.			1.52 lbs.			2.1 lbs.			

## Linotape—Lengthwise Cut

Envelope—Bengalwise Cut															
No. L—Thickness, .007 In.				No. B—Thickness, .010 In.				No. H—Thickness, .007 In.				No. F—Thickness, .010 In.			
$\frac{3}{8}$	041362	2333	1 20	041354	2343	1 35	198452	2375	1 20	198458	2385	1 35			
$\frac{1}{2}$	041363	2334	1 40	041355	2344	1 55	198453	2376	1 40	198459	2386	1 55			
$\frac{3}{4}$	041365	2336	1 90	041357	2346	2 05	198454	2378	1 90	198460	2388	2 05			
1	041367	2338	2 40	041359	2348	2 60	198455	2380	2 40	198461	2390	2 60			
$1\frac{1}{4}$	041373	2339	3 00	041360	2349	3 25	198456	2381	3 00	198462	2391	3 25			
$1\frac{1}{2}$	041574	2340	3 60	041361	2350	3 90	198457	2382	3 60	198463	2392	3 90			
Weight per gross, yard, 1-inch wide 1.52 lbs.				2.1 lbs.				1.52 lbs.				2.1 lbs.			

All above Linotape of  $\frac{3}{4}$  and 1-inch widths is carried in stock. Other widths furnished promptly on order.

In addition to tapes listed above any width of any thickness of Empire or Kablak Cloth will be cut to order, provided order amounts to multiple of 72 square yards.

## EMPIRE OILED PAPER

The papers forming the bases all possess the greatest tensile strength consistent with their thickness and have been selected for their uniformity of thickness and freedom from deleterious chemicals. The oil films with which they are coated are of the same nature as the films on Empire Cloth.

The oiled condenser papers, on account of their extreme thinness and high tensile strength, are giving great satisfaction to the manufacturers of induction coils and other delicate work. The thicker papers have been selected for their great tensile strength, density and evenness of texture.

Furnished in rolls 36 inches wide, containing 25 or 50 yards, or in sheet, 36x36 inches.

Trade No.	Mfrs. No.	Quality of Raw Paper	THICKNESS		Approx. Thickness Oil Films Inches	Av. Lbs. per Yard	Approx. Dielectric Strength	Price per Yard
			Inches	MM.				
16671	75	Condenser	.00075	0.019	.00025	.05	1000	\$0 28
16672	100	Condenser	.001	0.025	.0005	.07	1500	.29
16664	101	Condenser	.0015	0.038	.0005	.10	2000	.27
041338	102	Condenser	.002	0.051	.0005	.12	3000	.28
041339	103	Condenser	.003	0.076	.0015	.18	4500	.30
041340	104	Kraft	.004	0.102	.002	.28	4500	.32
16665	135	Kraft	.0045	0.115	.0015	.28	3000	.30
041341	105	Kraft	.005	0.127	.002	.32	5500	.38
041342	106	Bond	.0055	0.14	.0025	.37	6000	.53
041343	107	Gray Rope	.007	0.178	.002	.44	7000	.40
041344	109	Gray Rope	.009	0.228	.004	.52	9000	.52
16673	113	Kraft	.013	0.330	.004	.75	5000	.85
16667	115	Kraft	.015	0.381	.006	.85	7000	.95
16668	118	Kraft	.018	0.457	.009	1.00	10000	1.00



## INSULATING MATERIAL

### EMPIRE OILED CLOTHS

Empire Cloths are flexible, oil proof, moisture and age resistant. Their fabric bases are closely woven, made from long fibre cotton and selected for their tensile strength.

To insure absolute uniformity of thickness, flexibility, freedom from nap, while retaining the original tensile strength of the raw base cloth, a new process of cloth finishing has been developed which produces a quality far superior to previous methods.

The coating consists of two or more films of pure oxidized oil which is treated by us under formulas which have been constantly improved through our many years of research and experience in treating oil and manufacturing varnishes, compounds, etc. These oxidized oil films are very firm, tough and resistive to abrasion.

For Empire Cloth cut into tape, see under Linotape.

Code No.	Mfrs. No.	Quality of Fabric	FINISHED THICKNESS		Approx. Thickness Oil Films	Average Lbs. per Yard	Approx. Dielectric Strength	Price per Yard
			Inches	MM.	Inches			
327	4	Cambrie	.004	0.102	.001	.22	4500	\$0.60
328	5	Cambrie	.005	0.127	.001	.31	5000	.55
330	7	Cambrie	.007	0.178	.003	.38	7000	.58
332	10	Cambrie	.010	0.254	.005	.53	10000	.63
333	12	Cambrie	.012	0.305	.007	.65	12000	.70
334	15	Cambrie	.015	0.381	.010	.79	15000	.85

Prices on bias Empire Cloths of above thicknesses quoted upon application.

### EMPIRE OILED CANVAS AND DUCK

No. 16 is made on a fabric base that has been specially finished to ensure smooth and even coating of the oil. Nos. 22 and 32 ducks have great resistance to mechanical wear and imperviousness to moisture but do not have the same smooth surface as other cloths.

Code No.	Mfrs. No.	Quality of Fabric	FINISHED THICKNESS		Approx. Thickness Oil Films	Average Lbs. per Yard	Approx. Dielectric Strength	Price per Yard
			Inches	MM.	Inches			
81	16	Canvas	.016	0.406	.008	.80	10000	\$0.85
82	22	Duck	.022	0.559	.002	1.00	.....	.90
83	32	Duck	.032	0.813	.002	1.30	.....	1.10

### EMPIRE OILED SILK

Empire Oiled Silk has for a base a closely woven fabric of pure silk. It is an excellent insulation where a material possessing very high insulating qualities combined with extreme thinness and great flexibility is demanded.

Code No.	Mfrs. No.	Quality of Fabric	FINISHED THICKNESS		Approx. Thickness Oil Films	Average Lbs. per Yard	Approx. Dielectric Strength	Price per Yard
			Inches	MM.	Inches			
85	44	Silk	.004	0.102	.00175	.22	5000	\$1.10
87	66	Silk	.006	0.152	.00375	.32	7000	1.20

All the above Empire Cloths, etc., are furnished in standard rolls containing 50 yards. Rolls containing 25 or 100 yards furnished when specified.

Any width cut to order provided order amounts to multiples of 72 square yards.

The dielectric strength in above tables was obtained by placing the insulating material between a 12-inch square copper plate, and copper disc electrodes 1½ inches in diameter using cycle A. C. current.



## INSULATING MATERIAL

## No. 20 MICANITE CLOTH

No. 20 Micanite Cloth is made with 1, 2 or 3 layers of high-grade India Mica films, cemented together with overlapping edges into sheet form, the sheet being faced on one side with cotton cloth and the other side with Japanese paper.

It is an excellent composite insulation, the cloth adding mechanical strength, and is often used in conjunction with Empire Cloth and Paper, fish paper, etc., for transformers, field magnets and armature cores. In strip or tape form No. 20 Micanite Cloth is an efficient insulation for wrapping all sorts of conductors, and can be furnished any width from  $\frac{1}{2}$  to 36 inches, in rolls approximately  $3\frac{3}{4}$  inches in diameter.

Trade No.	Mfrs. No.	Thickness		Layers of Mica	Approx. Lbs. per Roll	Price per Lb.
		Inches	MM.			
041401	1315	.008	0.203	1	3.3	\$3.00
041402	1316	.011	0.279	2	5.2	2.50
041403	1317	.014	0.356	3	7.	2.10

## No. 24 MICANITE PAPER

No. 24 Micanite Paper is of the same nature as No. 20 Micanite Cloth except that the material is faced on both sides with Japanese tissue paper instead of cotton cloth, the object being to supply an insulation thinner than Micanite Cloth, but retaining the same thickness of mica film.

041407	1321	.005	0.127	1	2.4	3.00
041408	1322	.008	0.203	2	4.2	2.50
041409	1323	.011	0.279	3	6.	2.20

## No. 26 ROPE PAPER AND MICA

A composite insulation consisting of rope paper faced on one side, with two layers of India Mica films and tissue paper. This material has a wide range of utility in the field of moderate voltages and temperatures.

It is furnished in sheets 36x36 inches in the following stock thicknesses:

Trade No.	Mfrs. No.	Layers of Mica	Thickness of Raw Paper Inches	—APPROX. FINISHED—		Approx. Lbs. per Sheet	Price per Lb.
				Thickness Inches	MM.		
16634	1327	2	.003	.007	0.178	.5	\$2.60
16635	1328	2	.005	.010	0.254	.75	2.10
16636	1329	2	.010	.015	0.381	.94	1.65

## No. 27 PRESSBOARD AND MICA

This material is composed of No. 1 pressboard faced on one side with two overlapping layers of India Mica films and tissue paper.

Mechanically the sheet possesses greater rigidity than No. 26 ropes paper and mica, otherwise the insulation is of the same order.

It is furnished in sheets 36x36 inches and the following thicknesses are kept in stock:

16637	1330	2	.0075	.012	0.305	.9	1.75
16638	1331	2	.012	.017	0.432	1.13	1.55
16639	1332	2	.015	.020	0.508	1.33	1.45

## No. 29 FISH PAPER AND MICA

This material consists of fish paper faced on one side with two overlapping layers of India Mica films and tissue paper. This insulation is recommended when a material stronger than rope paper or pressboard is desired as a base for the mica films.

It is furnished in sheets 36x47 inches and the following thicknesses are kept in stock:

16640	1350	2	.005	.010	0.254	1.2	2.10
16641	1351	2	.007	.012	0.305	1.4	1.90
16642	1352	2	.010	.015	0.381	1.6	1.70
16643	1353	2	.015	.020	0.508	2.	1.60

## No. 32 MICANITE TAPE

Micanite Paper Tape, consists of one layer of selected India Mica films, well lapped, faced on both sides with special thin, but strong Japanese paper, and furnished in rolls of approximately 100 feet lengths and  $3\frac{3}{4}$  inches in diameter.

To keep the tape fresh and pliable it is furnished in sealed tin cans, 25 rolls of the  $\frac{3}{4}$ -inch width to a can. It will remain soft and pliable for a reasonable time, but if exposed to the air, will gradually lose its flexibility. By placing the tape roll on a hot plate, warming each side of the roll for a minute or two, or by placing roll in an oven, not over 300 degrees F., the tape again becomes pliable and can be applied readily.

The following widths are kept in stock:

Trade No.	Mfrs. No.	Width Inches	Approx. Thickness	Approx. Oz. per Roll	Price per Lb.
16646	1357	$\frac{3}{4}$	.005 to .007	4 $\frac{1}{2}$	\$3.75
16647	1358	1	.005 to .007	6	3.75

Special widths made to order.



## INSULATING MATERIAL

### M. I. C. COMPOUND

The three grades of M. I. C. Compound are composed chiefly of asphaltum and refined seed oil treated by special processes and are especially adapted for coating all bare metal faces, as well as coils, etc., as they are non-corrosive. They are extremely durable and elastic; impervious to moisture and will withstand very high temperatures. They contain no carbon sulphite or other objectionable ingredients. A perfect film of M. I. C. Compound has a puncture voltage of 900 volts per mil. The specific gravity at 60 degrees F. is .88 or 29 degrees Baume. It can be reduced to any desired density or solution with turpentine, benzine or gasoline.

These varnishes can be applied to metal or other solid materials by dipping or with a brush. On cloth, paper, etc., it is advisable to apply them by dipping the material in the varnish. If heavy coating is required, it is well to apply a number of thin coats, allowing each to dry thoroughly.

#### No. 1 M. I. C. Compound

No. 1 M. I. C. Compound is a glossy, black baking varnish generally used for armature coils, field and magnet coils, wires and cables, transformers, for covering cloth, paper asbestos, and fibre, and wherever the highest insulation and protection from moisture is required. Bakes hard, but elastic at 300 degrees F. in eight hours. Air dries in six hours (dust dry).

	Mfrs. No.	Size Package	Price per Gal.
01	3030	1-gallon cans	\$2.50
02	3031	5-gallon cans	2.25
04	3033	50-gallon bbls.	1.70

#### No. 3 M. I. C. Compound

No. 3 M. I. C. Compound is a glossy, black air drying varnish, used for armature, field and magnet coils, generators, motors, arc lamps, etc., and wherever an air drying black insulating varnish having a hard but flexible surface is required. Dust dry in two hours.

	Mfrs. No.	Size Package	Price per Gal.
09	3042	1-gallon cans	\$2.00
10	3043	5-gallon cans	1.75
12	3045	50-gallon bbls.	1.25

#### No. 4 M. I. C. Compound

No. 4 M. I. C. Compound is a glossy, black air drying varnish for core plates, transformer cases, and for all outdoor work such as overhead line construction, locomotive front ends, street trucks, fenders, smoke stacks, iron work, etc. Dust dry in one hour.

	Mfrs. No.	Size Package	Price per Gal.
13	3050	1-gallon cans	\$1.80
14	3051	5-gallon cans	1.55
16	3053	50-gallon bbls.	1.15



No. 040988

### CRESCENT CHATTERTON COMPOUND

Trade No.		Price per Lb.
040988	No. 1 Domestic	\$1.00
040989	No. 2 Imported	2.00



## ELECTRICAL MICA

## INDIA AND DOMESTIC CUT MICA

All larger sizes at special prices.  
Sizes not listed charged at list of next larger size.

Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.
12970	1 x3	\$5.00	13737	1 3/4 x10	\$33.00	13797	2 3/4 x5	\$14.00	13849	4 x4 1/2	\$21.00
13676	1 x4	8.00	12976	1 3/4 x12	40.00	13798	2 3/4 x5 1/2	15.00	13850	4 x5	22.50
13677	1 x4 1/2	9.00	12973	2 x2	6.00	13799	2 3/4 x6	17.00	13851	4 x5 1/2	24.00
13678	1 x5	10.00	13742	2 x3	8.00	13800	2 3/4 x6 1/2	19.00	13852	4 x6	26.00
13679	1 x5 1/2	12.00	13743	2 x3 1/2	9.00	13801	2 3/4 x7	23.00	13853	4 x6 1/2	27.00
13680	1 x6	14.00	13744	2 x4	10.00	13802	2 3/4 x8	28.00	13854	4 x7	28.50
13681	1 x6 1/2	16.00	13745	2 x4 1/2	12.00	13803	2 3/4 x9	33.00	13855	4 x8	33.00
13682	1 x7	18.00	13746	2 x5	14.00	13804	3 3/4 x10	37.00	13856	4 x9	37.00
13684	1 x8	21.00	13747	2 x5 1/2	14.50	13807	3 x3	14.00	13857	4 x10	43.00
13686	1 x9	25.00	13748	2 x6	16.00	13808	3 x3 1/2	15.00	13860	4 1/2 x4 1/2	22.00
13687	1 x10	30.00	13749	2 x6 1/2	18.00	13809	3 x4	15.50	13861	4 1/2 x5	24.00
12974	1 1/4 x3	5.00	13750	2 x7	20.00	13810	3 x4 1/2	16.00	13862	4 1/2 x5 1/2	26.00
13692	1 1/4 x4	8.50	13752	2 x8	25.00	13811	3 x5	16.50	13863	4 1/2 x6	28.00
13693	1 1/4 x4 1/2	9.00	13754	2 x9	30.00	13812	3 x5 1/2	17.00	13864	4 1/2 x6 1/2	31.00
13694	1 1/4 x5	11.00	13755	2 x10	36.00	13813	3 x6	18.00	13865	4 1/2 x7	32.50
13695	1 1/4 x5 1/2	13.00	12977	2 x12	45.00	13814	3 x6 1/2	20.00	13866	4 1/2 x8	35.00
13696	1 1/4 x6	15.00	13760	2 1/4 x3	8.00	13815	3 x7	24.00	13867	4 1/2 x9	41.50
13697	1 1/4 x6 1/2	16.00	13761	2 1/4 x3 1/2	9.00	13816	3 x8	29.00	13868	4 1/2 x10	45.00
13698	1 1/4 x7	18.00	13762	2 1/4 x4	10.00	13817	3 x9	34.00	13871	5 x5	25.00
13700	1 1/4 x8	22.00	13763	2 1/4 x4 1/2	12.00	13818	3 x10	38.00	13873	5 x6	30.00
13702	1 1/4 x9	26.00	13764	2 1/4 x5	14.00	13821	3 1/4 x3 1/4	15.00	13875	5 x7	35.00
13703	1 1/4 x10	30.00	13765	2 1/4 x5 1/2	15.00	13822	3 1/4 x3 1/2	15.50	13876	5 x8	38.00
12971	1 1/2 x2	4.00	13766	2 1/4 x6	16.50	13823	3 1/4 x4	16.00	13877	5 x9	43.00
12972	1 1/2 x3	6.00	13767	2 1/4 x6 1/2	18.50	13824	3 1/4 x4 1/2	16.50	13878	5 x10	48.00
13710	1 1/2 x4	8.00	13768	2 1/4 x7	21.00	13825	3 1/4 x5	17.00	13882	5 1/2 x6	32.00
13711	1 1/2 x4 1/2	9.00	13770	2 1/4 x8	26.00	13826	3 1/4 x5 1/2	18.00	13884	5 1/2 x7	36.00
13712	1 1/2 x5	11.00	13772	2 1/4 x9	30.00	13827	3 1/4 x6	19.00	13885	5 1/2 x8	42.00
13713	1 1/2 x5 1/2	13.00	13773	2 1/4 x10	36.00	13828	3 1/4 x6 1/2	22.00	13886	5 1/2 x9	47.00
13714	1 1/2 x6	14.50	13777	2 1/2 x3	9.00	13829	3 1/4 x7	25.00	13887	5 1/2 x10	50.00
13715	1 1/2 x6 1/2	16.50	13778	2 1/2 x3 1/2	9.50	13830	3 1/4 x8	30.00	13888	5 1/2 x11	54.00
13716	1 1/2 x7	18.50	13779	2 1/2 x4	10.00	13831	3 1/4 x9	35.00	13889	5 1/2 x12	58.00
13718	1 1/2 x8	23.00	13780	2 1/2 x4 1/2	11.50	13832	3 1/4 x10	39.00	13890	6 x6	37.50
13720	1 1/2 x9	27.00	13781	2 1/2 x5	13.00	13835	3 1/2 x3 1/2	16.00	13892	6 x7	41.00
13721	1 1/2 x10	32.00	13782	2 1/2 x5 1/2	15.00	13836	3 1/2 x4	16.50	13893	6 x8	45.00
12975	1 1/2 x12	38.00	13783	2 1/2 x6	16.50	13837	3 1/2 x4 1/2	17.00	13894	6 x9	49.00
13726	1 3/4 x4	9.00	13784	2 1/2 x6 1/2	18.50	13838	3 1/2 x5	18.00	13895	6 x10	56.00
13727	1 3/4 x4 1/2	10.00	13785	2 1/2 x7	22.00	13839	3 1/2 x5 1/2	19.00	12978	6 x12	65.00
13728	1 3/4 x5	11.50	13787	2 1/2 x8	27.00	13840	3 1/2 x6	20.00	13898	7 x7	44.00
13729	1 3/4 x5 1/2	13.00	13789	2 1/2 x9	32.00	13841	3 1/2 x6 1/2	22.00	13899	7 x8	48.00
13730	1 3/4 x6	15.50	13790	2 1/2 x10	36.00	13842	3 1/2 x7	26.00	13900	7 x9	53.00
13731	1 3/4 x6 1/2	17.00	13793	2 3/4 x3	11.00	13843	3 1/2 x8	31.00	13901	7 x10	60.00
13732	1 3/4 x7	19.00	13794	2 3/4 x3 1/2	11.50	13844	3 1/2 x9	36.00	13904	8 x8	55.00
13734	1 3/4 x8	24.00	13795	2 3/4 x4	12.00	13845	3 1/2 x10	41.00	13905	8 x9	58.00
13736	1 3/4 x9	28.00	13796	2 3/4 x4 1/2	12.50	13848	4 x4	19.00	13906	8 x10	65.00

## UNCUT SHEET MICA

Uncut mica is carefully selected as to quality and sizes it will cut. The different grades will cut assorted sizes as shown in table.

All grades are very closely trimmed and the wastage from them when cut will be slight.

India					Amber				
Grade No.	Trade No.	Width Inches	Length Inches	Price per Lb.	Trade No.	Width Inches	Length Inches	Price per Lb.	
A1	041413	4 to 6	7 to 9	\$10.50	041419	4 to 5	7 to 9	\$6.50	
1	041414	3 to 5	5 to 7	8.00	041420	3 to 6	5 to 7	5.00	
2	041415	1 1/2 to 3 1/2	4 1/2 to 6	6.50	041421	1 1/2 to 3 1/2	4 1/2 to 6	3.50	
3	041416	1 1/2 to 3	3 to 4 1/2	5.00	041422	1 1/2 to 3	3 to 4	2.50	
4	041417	1 1/2 to 2 1/2	2 1/2 to 3	3.25	041423	1 1/2 to 2 1/2	2 1/2 to 3	1.75	
5	041418	1 to 2	2 to 2 1/2	2.00	041424	1 to 2	2 to 2 1/2	1.00	



# COMPOUNDS AND VARNISHES

## P & B ELECTRICAL COMPOUNDS

is used as standard for electricians generally, on account of its strength and durability.

Compound is used where an almost immediate drier and greatest adhesion possible is desired. It leaves less surface coating than Compound.

Compound is used for all general purposes.

Trade Name	Trade No.	Number 2 Size Pkg.	Price per Imp. Gal.
33-501	206395	1-barrel	\$3.60
4-501	206396	5-gal. cans	4.00
1-70	206397	Case of 6 1-gal. cans	4.40

## P & B SPECIAL PAINT

is for protecting iron and wood from the action of acids, etc.; for painting brick or woodwork exposed to moisture; for smelter work, cyanide tanks and

other work; dries very quickly. No. 3 is

Trade Name	Trade No.	Number 3 Size Pkg.	Price per Imp. Gal.
33-10	206401	1-barrel	\$2.80
2-40	206402	5-gal. cans	3.10
2-40	206403	Case of 6 1-gal. cans	3.40

## BLACK AIR-DRYING VARNISH

insulates and is withstanding 1000 volts per mil. but not recommended for use where baking facilities are not available, or where conditions, junction boxes and wherever an

Trade Name	Trade No.	Size Pkg.	Price per Imp. Gal.
33-10	206404	Case of 6 1-gal. cans	\$4.30

## ARMATURE AND FIELD COIL VARNISH

is the best insulating varnish on the market. It dries in a few minutes and is

Trade Name	Trade No.	Size Pkg.	Price per Imp. Gal.
15-10	206405	Case of 6 1-gal. cans	13.80

## P & B FINISHING VARNISH

is used for finishing and coating. The finished structure should be coated with

It is recommended where a high-grade oil-proof varnish is required. It is

Trade Name	Trade No.	Clear Size Pkg.	Price per Imp. Gal.
33-10	206411	1-barrel	\$7.50
2-40	206412	5-gal. cans	7.90
2-40	206413	Case of 6 1-gal. cans	8.30

## P & B BAKING VARNISH

for field coils and transformer coils, they are equally efficient. They are extensively used in

Trade Name	Trade No.	Clear Size Pkg.	Price per Imp. Gal.
5-10	206414	1-barrel	6.50
5-40	206415	5-gal. cans	6.90
5-40	206416	Case of 6 1-gal. cans	7.30



## ELECTRICAL MICA

## INDIA AND DOMESTIC CUT MICA

All larger sizes at special prices.  
Sizes not listed charged at list of next larger size.

Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.
12970	1 x 3	85.00	13737	1 3/4 x 10	833.00	13797	2 3/4 x 5	\$14.00	13849	4 x 4 1/2	\$21.00
13676	1 x 4	8.00	12976	1 3/4 x 12	40.00	13798	2 3/4 x 5 1/2	15.00	13850	4 x 5	22.50
13677	1 x 4 1/2	9.00	12973	2 x 2	6.00	13799	2 3/4 x 6	17.00	13851	4 x 5 1/2	24.00
13678	1 x 5	10.00	13742	2 x 3	8.00	13800	2 3/4 x 6 1/2	19.00	13852	4 x 6	26.00
13679	1 x 5 1/2	12.00	13743	2 x 3 1/2	9.00	13801	2 3/4 x 7	23.00	13853	4 x 6 1/2	27.00
13680	1 x 6	14.00	13744	2 x 4	10.00	13802	2 3/4 x 8	28.00	13854	4 x 7	28.50
13681	1 x 6 1/2	16.00	13745	2 x 4 1/2	12.00	13803	2 3/4 x 9	33.00	13855	4 x 8	33.00
13682	1 x 7	18.00	13746	2 x 5	14.00	13804	3 3/4 x 10	37.00	13856	4 x 9	37.00
13684	1 x 8	21.00	13747	2 x 5 1/2	14.50	13807	3 x 3	14.00	13857	4 x 10	43.00
13686	1 x 9	25.00	13748	2 x 6	16.00	13808	3 x 3 1/2	15.00	13860	4 1/2 x 4 1/2	22.00
13687	1 x 10	30.00	13749	2 x 6 1/2	18.00	13809	3 x 4	15.50	13861	4 1/2 x 5	24.00
12974	1 1/4 x 3	5.00	13750	2 x 7	20.00	13810	3 x 4 1/2	16.00	13862	4 1/2 x 5 1/2	26.00
13692	1 1/4 x 4	8.50	13752	2 x 8	25.00	13811	3 x 5	16.50	13863	4 1/2 x 6	28.00
13693	1 1/4 x 4 1/2	9.00	13754	2 x 9	30.00	13812	3 x 5 1/2	17.00	13864	4 1/2 x 6 1/2	31.00
13694	1 1/4 x 5	11.00	13755	2 x 10	36.00	13813	3 x 6	18.00	13865	4 1/2 x 7	32.50
13695	1 1/4 x 5 1/2	13.00	12977	2 x 12	45.00	13814	3 x 6 1/2	20.00	13866	4 1/2 x 8	35.00
13696	1 1/4 x 6	15.00	13760	2 1/4 x 3	8.00	13815	3 x 7	24.00	13867	4 1/2 x 9	41.50
13697	1 1/4 x 6 1/2	16.00	13761	2 1/4 x 3 1/2	9.00	13816	3 x 8	29.00	13868	4 1/2 x 10	45.00
13698	1 1/4 x 7	18.00	13762	2 1/4 x 4	10.00	13817	3 x 9	34.00	13871	5 x 5	25.00
13700	1 1/4 x 8	22.00	13763	2 1/4 x 4 1/2	12.00	13818	3 x 10	38.00	13873	5 x 6	30.00
13702	1 1/4 x 9	26.00	13764	2 1/4 x 5	14.00	13821	3 1/4 x 3 1/4	15.00	13875	5 x 7	35.00
13703	1 1/4 x 10	30.00	13765	2 1/4 x 5 1/2	15.00	13822	3 1/4 x 3 1/2	15.50	13876	5 x 8	38.00
12971	1 1/2 x 2	4.00	13766	2 1/4 x 6	16.50	13823	3 1/4 x 4	16.00	13877	5 x 9	43.00
12972	1 1/2 x 3	6.00	13767	2 1/4 x 6 1/2	18.50	13824	3 1/4 x 4 1/2	16.50	13878	5 x 10	48.00
13710	1 1/2 x 4	8.00	13768	2 1/4 x 7	21.00	13825	3 1/4 x 5	17.00	13882	5 1/2 x 6	32.00
13711	1 1/2 x 4 1/2	9.00	13770	2 1/4 x 8	26.00	13826	3 1/4 x 5 1/2	18.00	13884	5 1/2 x 7	36.00
13712	1 1/2 x 5	11.00	13772	2 1/4 x 9	30.00	13827	3 1/4 x 6	19.00	13885	5 1/2 x 8	42.00
13713	1 1/2 x 5 1/2	13.00	13773	2 1/4 x 10	36.00	13828	3 1/4 x 6 1/2	22.00	13886	5 1/2 x 9	47.00
13714	1 1/2 x 6	14.50	13777	2 1/2 x 3	9.00	13829	3 1/4 x 7	25.00	13887	5 1/2 x 10	50.00
13715	1 1/2 x 6 1/2	16.50	13778	2 1/2 x 3 1/2	9.50	13830	3 1/4 x 8	30.00	13888	5 1/2 x 11	54.00
13716	1 1/2 x 7	18.50	13779	2 1/2 x 4	10.00	13831	3 1/4 x 9	35.00	13889	5 1/2 x 12	58.00
13718	1 1/2 x 8	23.00	13780	2 1/2 x 4 1/2	11.50	13832	3 1/4 x 10	39.00	13890	6 x 6	37.50
13720	1 1/2 x 9	27.00	13781	2 1/2 x 5	13.00	13835	3 1/2 x 3 1/2	16.00	13892	6 x 7	41.00
13721	1 1/2 x 10	32.00	13782	2 1/2 x 5 1/2	15.00	13836	3 1/2 x 4	16.50	13893	6 x 8	45.00
12975	1 1/2 x 12	38.00	13783	2 1/2 x 6	16.50	13837	3 1/2 x 4 1/2	17.00	13894	6 x 9	49.00
13726	1 3/4 x 4	9.00	13784	2 1/2 x 6 1/2	18.50	13838	3 1/2 x 5	18.00	13895	6 x 10	56.00
13727	1 3/4 x 4 1/2	10.00	13785	2 1/2 x 7	22.00	13839	3 1/2 x 5 1/2	19.00	12978	6 x 12	65.00
13728	1 3/4 x 5	11.50	13787	2 1/2 x 8	27.00	13840	3 1/2 x 6	20.00	13898	7 x 7	44.00
13729	1 3/4 x 5 1/2	13.00	13789	2 1/2 x 9	32.00	13841	3 1/2 x 6 1/2	22.00	13899	7 x 8	48.00
13730	1 3/4 x 6	15.50	13790	2 1/2 x 10	36.00	13842	3 1/2 x 7	26.00	13900	7 x 9	53.00
13731	1 3/4 x 6 1/2	17.00	13793	2 3/4 x 3	11.00	13843	3 1/2 x 8	31.00	13901	7 x 10	60.00
13732	1 3/4 x 7	19.00	13794	2 3/4 x 3 1/2	11.50	13844	3 1/2 x 9	36.00	13904	8 x 8	55.00
13734	1 3/4 x 8	24.00	13795	2 3/4 x 4	12.00	13845	3 1/2 x 10	41.00	13905	8 x 9	58.00
13736	1 3/4 x 9	28.00	13796	2 3/4 x 4 1/2	12.50	13848	4 x 4	19.00	13906	8 x 10	65.00

## UNCUT SHEET MICA

Uncut mica is carefully selected as to quality and sizes it will cut. The different grades will cut assorted sizes as shown in table.

All grades are very closely trimmed and the wastage from them when cut will be slight.

India					Amber				
Grade No.	Trade No.	Width Inches	Length Inches	Price per Lb.	Trade No.	Width Inches	Length Inches	Price per Lb.	
A1	041413	4 to 6	7 to 9	\$10.50	041419	4 to 5	7 to 9	\$6.50	
1	041414	3 to 5	5 to 7	8.00	041420	3 to 6	5 to 7	5.00	
2	041415	1 1/2 to 3 1/2	4 1/2 to 6	6.50	041421	1 1/2 to 3 1/2	4 1/2 to 6	3.50	
3	041416	1 1/2 to 3	3 to 4 1/2	5.00	041422	1 1/2 to 3	3 to 4	2.50	
4	041417	1 1/2 to 2 1/2	2 1/2 to 3	3.25	041423	1 1/2 to 2 1/2	2 1/2 to 3	1.75	
5	041418	1 to 2	2 to 2 1/2	2.00	041424	1 to 2	2 to 2 1/2	1.00	



## P & B COMPOUNDS AND VARNISHES



### P & B ELECTRICAL COMPOUNDS

Recognized as standard by electricians generally, on account of its insulating qualities and durability.

No. 1 compound is used where an almost immediate drier and greatest amount of penetration possible is desired. It leaves less surface coating than No. 2 compound.

No. 2 compound is used for all general purposes.

NUMBER 1			NUMBER 2		
Trade No.	Size Pkg.	Price per Imp. Gal.	Trade No.	Size Pkg.	Price per Imp. Gal.
206392	1-barrel	\$3.90	206395	1-barrel	\$3.60
206393	5-gal. cans	4.30	206396	5-gal. cans	4.00
206394	Case of 6 1-gal. cans	4.70	206397	Case of 6 1-gal. cans	4.40

### P & B SPECIAL PAINT

P & B Special Paint is used for protecting iron and wood from the action of acids, etc.; painting and preserving all kinds of iron work; painting brick or woodwork exposed to moisture; preserving iron or wood submerged or underground; for smelter work, cyanide tanks and hundreds of other purposes.

No. 2 is the standard or medium grade for all general work; dries very quickly. No. 3 is heavy paint.

NUMBER 2			NUMBER 3		
Trade No.	Size Pkg.	Price per Imp. Gal.	Trade No.	Size Pkg.	Price per Imp. Gal.
206398	1-barrel	\$3.10	206401	1-barrel	\$2.80
206399	5-gal. cans	3.40	206402	5-gal. cans	3.10
206400	Case of 6 1-gal. cans	3.70	206403	Case of 6 1-gal. cans	3.40

### P & B BLACK AIR-DRYING VARNISH

This varnish is a high-grade insulator capable of withstanding 1000 volts per mil, but not absolutely oil-proof. Should be recommended in shops where baking facilities are not available, for general work, including switchboards, connections, junction boxes and wherever an insulator is required. Air-dries in 30 minutes.

Trade No.	Size Pkg.	Price per Imp. Gal.	Trade No.	Size Pkg.	Price per Imp. Gal.
206404	1-barrel	\$3.50	206406	Case of 6 1-gal. cans	\$4.30
206405	5-gal. cans	3.90			

### S P C ARMATURE AND FIELD COIL VARNISH

The toughest and highest grade finishing varnish on the market. It dries in a few minutes a hard glossy coat. Thin with grain or wood alcohol.

206407	1-barrel	13.00	206409	Case of 6 1-gal. cans	13.80
206408	5-gal. cans	13.40			

### P & B FINISHING VARNISH

After armature coils are baked and assembled, the finished armature should be coated with P & B Finishing Varnish (oil-proof). It is recommended where a high-grade oil-proof varnish is required. This varnish is considered equal in efficiency to S. P. C. Armature and Field Coil Varnish, excepting that it does not dry to quite as hard a coat. Air-dries in 30 minutes.

BLACK			CLEAR		
Trade No.	Size Pkg.	Price per Imp. Gal.	Trade No.	Size Pkg.	Price per Imp. Gal.
206410	1-barrel	\$8.00	206413	1-barrel	\$7.50
206411	5-gal. cans	8.40	206414	5-gal. cans	7.90
206412	Case of 6 1-gal. cans	8.80	206415	Case of 6 1-gal. cans	8.30

### P & B BAKING VARNISH

For insulating armature coils, field coils and transformer coils, they are equally efficient, one or the other, depending upon the choice of the consumer. They are extensively used in railroad repair shops; are pliable and oil-proof.

Should be baked 8 to 12 hours at 180 degrees Fahrenheit.

BLACK			CLEAR		
Trade No.	Size Pkg.	Price per Imp. Gal.	Trade No.	Size Pkg.	Price per Imp. Gal.
206416	1-barrel	5.00	206419	1-barrel	6.50
206417	5-gal. cans	5.40	206420	5-gal. cans	6.90
206418	Case of 6 1-gal. cans	5.80	206421	Case of 6 1-gal. cans	7.30



## INSULATING LIQUIDS AND COMPOUNDS



No. 040940



No. 040946



No. 040950



No. 040960

## ARMALAC

Trade No.	Size	Price per Gallon
040940	Barrel	\$3.00
040941	1-gal. can	3.70
040942	2-gal. can	3.70
040943	5-gal. can	3.70
040944	10-gal. can	3.70

A high-grade, permanently elastic compound that meets the requirements of the trade; used for the reinforcement of the cotton covering of windings, and for paper, fibre, mica cloth, etc. Will withstand heating and cooling without crumbling or growing brittle.

## ENAMELAC

040945	Barrel	2.75
040946	1-gal. can	3.45
040947	5-gal. can	3.45
040948	10-gal. can	3.45

A quick-drying, glossy black insulating paint for general work, especially inside work, switchboard, junction boxes, controller cases, and the like; will stand well on dirty surfaces, hot steam pipes, etc., and resists acid fumes and slops.

## INSULLAC

040949	Barrel	3.40
040950	1-gal. can	4.10
040951	2-gal. can	4.10
040952	5-gal. can	4.10
040953	10-gal. can	4.10

A quick-drying, transparent, highly insulating varnish adapted to general use in the manufacture of electrical apparatus. It is especially adapted to cementing mica, and mica and paper. When so applied the solvent should be forced out under hydraulic pressure, between plates upon which 40 to 60 pounds of steam is applied, and allowed to remain for 48 hours. When no particular color is specified orange will be furnished, but any color desired may be obtained. Black Insullac is used to render transformer coils oil-proof.

## INSULLAC THINNER

040954	Barrel	3.00
040955	1-gal. can	3.70
040956	2-gal. can	3.70
040957	5-gal. can	3.70
040958	10-gal. can	3.70

The diluting liquid for Insullac, manufactured under a process known only to this company.

## No. 3 ELECTRICAL PAINT

040959	Barrel	3.60
040960	1-gal. can	5.00
040961	2-gal. can	5.00
040962	5-gal. can	5.00
040963	10-gal. can	5.00

A heavy, absolutely water and acid-proof paint, particularly adapted for acid tanks, battery cells, etc., also for the outside of railway field coils and armatures, controller cases, car fenders and similar works.

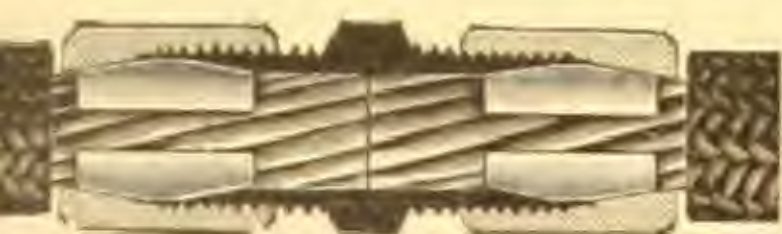
## NEPONSET SHELLAC

040964	Barrel	5.40
040965	1-gal. can	6.40
040966	2-gal. can	6.40
040967	5-gal. can	6.40
040968	10-gal. can	6.40

A uniform oil-proof insulating varnish of general application around electrical installations. Comes both clear and black, and may be thinned with 96 per cent wood alcohol. Will resist hot oil, and is especially useful on the transformer tanks, frames of electrical machinery, etc. Contains no rosin.



## DOSSERT CONNECTORS



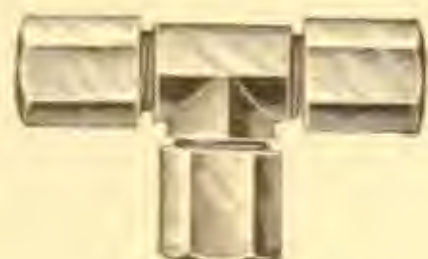
Two-way, Type A, Showing Detail



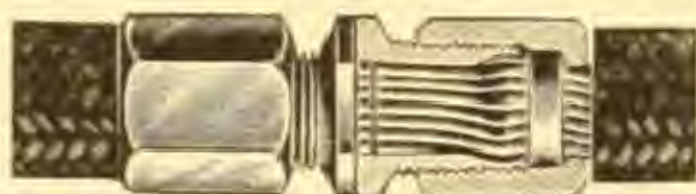
Type C



Cable Tap



Three-way



Two-way, Type B, Sectional View



Type D



Reducer



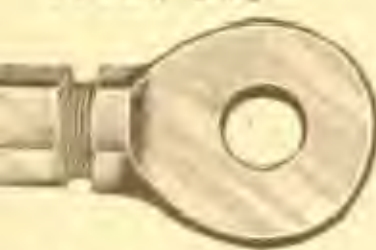
Type Y



Elbow



Front Lug



Back Lug



Angle Lug



Swivel Lug

Dossert & Company make a mechanical joint for solid or stranded conductor, which has great mechanical strength and an electrical conductance in excess of that of the cable. The joint (Type A) consists of a nipple, two compression sleeves or bushings and two compression nuts. As shown, the compression sleeves are split lengthwise and tapered at both ends. The tapered ends of the sleeve fit into correspondingly tapered parts of the nipple and nut. When the nut is screwed up on the nipple the action of the taper causes the compression sleeve to decrease in diameter and grip the strands tightly together, thereby getting good electrical contact.

Type A connectors are for use on cables, stranded or solid wires, rods and tubing. They are simple and effective, and by their use splices can be quickly made in conductors of any size. Type A connectors, however, should not be used on a cable that is to be subjected to heavy tensile strains.

Lugs, three-ways, Y's, reducers, elbows and many other types of connectors are made with this principle for making the electrical connections and can be used for connections on switchboards, panels, bus bars, transformers, meters, electric smelting furnaces, fuse blocks, service boxes, grounding devices, motors, oil switches, etc.

For overhead work where the cables are subjected to considerable tensile strain, another type of joint (Type B) is made, but for general use the above described connector is recommended and almost always used.

A special application of this joint is the cable tap. It consists of a hook, cover, jam nut, compression sleeve and compression nut. The hook is machined to fit the main cable, while its shank is drilled and threaded to form the nipple of a standard Dossert Joint for size of branch required.

The cable tap is used to connect a branch wire, rod or bleeder to a main wire, rod or feeder. It does not splice the main, but simply clamps on to it. Equalizers are combinations of two cable taps. They can be furnished to equalize the load on any two sizes of cable.

The three-way is used to make a main line splice and to connect a branch wire at the joint.

When main and branch cables are of different sizes, please give size of main first in ordering cable taps. To determine the list price of a cable tap of an odd size: Add the list price of the two-way connector for the main to half the list price of a two-way for the branch.

Reducers are made in two-ways and three-ways. The accompanying illustration shows a two-way reducer. Any combination of reduction can be effected by means of these reducers. To ascertain the list price of a two-way reducer, take one half the list price of a regular two-way of the corresponding size of each end.

The elbow makes an admirable right angle connection. List prices same as for straight two-way connectors of corresponding size.

Type D connectors are for use on wires No. 8 B. & S. and smaller. Price, 20 cents each.



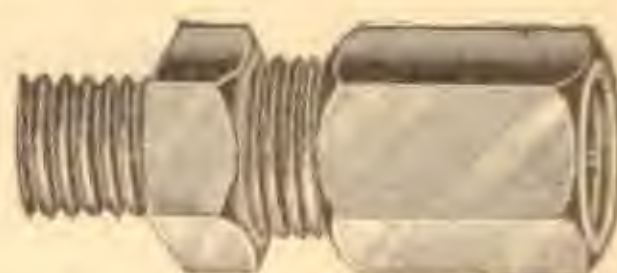
## DOSSERT CONNECTORS



Insulated Two-way Connector



Stud Connector, Type F



Stud Connector, Type M



Sectional View



Cable Anchor, Type S



Cable Anchor, Type R



Cable Anchor, Type E



Service Box Lug



Service Box Plug



Grounding Device

Insulating covers can be supplied for all sizes of Dossert Two-way Connectors up to 250000 C. M. The line comprises: No. 4 cover, which is for use on connectors taking all sizes of wire from No. 14 to No. 4, inclusive, solid and stranded; the No. 1 cover which is for use on the connector taking Nos. 1, 2 and 3 sizes of wires; the No. 00 cover, which is for use on the No. 0 and No. 00 connectors; and the 250000 C. M. cover, which is for use on the No. 000, No. 0000 and 250000 sizes of connectors.

Insulating covers can be furnished for Dossert Cable Taps up to 500000 C. M., the line comprising five sizes: Nos. 1, 00, 0000, 300000 C. M. and 500000 C. M. These covers can also be used on intermediate sizes and also on cable taps having main connections of the foregoing sizes and various smaller branch connections. Prices given on the following page.

An insulating cover can be furnished for the No. 4 three-way connector, taking conductors ranging in size from No. 14 to No. 4, inclusive, or different combinations of these sizes.

Stud connector, Style F, is used to connect a wire or cable to a stud or threaded rod. Style M is used to connect wires or cables to flat strips or blocks.

Cable anchor, Style S, is used to connect the end of a cable to a strain insulator for the purpose of anchoring it. Style R is used to anchor one cable and take a branch off the anchored cable. Style E is used to splice and anchor two cables that are at right angles to each other.

The ground cap is used for connecting ground wires to the end of a pipe. When ordering, give size of gas pipe and size of wire and state whether solid or stranded.

The service box lug is used to connect wires to fuses where ordinarily a solder lug with a flat contact surface would be used. By the use of an assortment of sleeves with wire holes of different sizes, the same lug may be employed for connecting all wires from a certain predetermined size down to the smallest size used.

## How to Order Dossert Connectors

Use the proper name of connector desired.

In ordering Type A connectors for concentric laid cables, give circular mileage of cable, or exact diameter of cable, or exact diameter of one wire, and number of wires.

Type A, for solid wires, rods and tubing. Give gauge number of wire, or exact diameter of rod, wire or tube, or circular mileage of rod.

Type A, for rope laid and flexible cable. State that cable is rope laid or flexible and give circular mileage or gauge number, or exact diameter, or send sample of cable. The diameter for given size of rope laid or flexible cable is considerably larger than that of the same size concentric laid cable.

Type B. It is necessary to know the number of wires in a cable in furnishing Type B connectors, for the reason that the diameter of the core over which the inner ring fits varies according to the number of wires in the cable.

Do not use the words T joints or tees. In ordering connectors of that character, state plainly three-ways or cable taps.

In ordering the smaller sizes of connectors from No. 0000 down, please be sure and state whether for stranded or solid wires.



## DOSSERT CONNECTORS

### TYPES A, B AND C CONNECTORS

Size of Cable	Two-way		Three-way		Style Y		Cable Tap		Standard Lug	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
14-4	094524	\$0.40	094555	\$0.60	094586	\$0.60	094617	\$0.60	094648	\$0.30
3-1	094525	.50	094556	.75	094587	.75	094618	.75	094649	.38
0	094526	.60	094557	.90	094588	.90	094619	.90	094650	.45
00	094527	.74	094558	1.11	094589	1.11	094620	1.11	094651	.56
000	094528	.90	094559	1.35	094590	1.35	094621	1.35	094652	.68
0000	094529	1.10	094560	1.65	094591	1.65	094622	1.65	094653	.83
00000	094530	1.30	094561	1.95	094592	1.95	094623	1.95	094654	.98
000000	094531	1.52	094562	2.28	094593	2.28	094624	2.28	094655	1.14
0000000	094532	1.74	094563	2.61	094594	2.61	094625	2.61	094656	1.31
00000000	094533	2.00	094564	3.00	094595	3.00	094626	3.00	094657	1.50
000000000	094534	2.30	094565	3.45	094596	3.45	094627	3.45	094658	1.73
0000000000	094535	2.60	094566	3.90	094597	3.90	094628	3.90	094659	1.96
00000000000	094536	2.90	094567	4.35	094598	4.35	094629	4.35	094660	2.18
000000000000	094537	3.18	094568	4.77	094599	4.77	094630	4.77	094661	2.39
0000000000000	094538	3.44	094569	5.16	094600	5.16	094631	5.16	094662	2.58
00000000000000	094539	3.68	094570	5.52	094601	5.52	094632	5.52	094663	2.76
000000000000000	094540	3.92	094571	5.88	094602	5.88	094633	5.88	094664	2.94
0000000000000000	094541	4.16	094572	6.22	094603	6.22	094634	6.22	094665	3.11
00000000000000000	094542	4.40	094573	6.60	094604	6.60	094635	6.60	094666	3.30
000000000000000000	094543	4.64	094574	6.96	094605	6.96	094536	6.96	094667	3.48
0000000000000000000	094544	5.00	094575	7.50	094606	7.50	094637	7.50	094668	3.75
00000000000000000000	094545	5.50	094576	8.25	094607	8.25	094638	8.25	094669	4.13
000000000000000000000	094546	6.00	094577	9.00	094608	9.00	094639	9.00	094670	4.50
0000000000000000000000	094547	6.50	094578	9.75	094609	9.75	094640	9.75	094671	4.88
00000000000000000000000	094548	7.00	094579	10.50	094610	10.50	094641	10.50	094672	5.25
000000000000000000000000	094549	7.50	094580	11.25	094611	11.25	094642	11.25	094673	5.63
0000000000000000000000000	094550	8.00	094581	12.00	094612	12.00	094643	12.00	094674	6.00
00000000000000000000000000	094551	8.50	094582	12.75	094613	12.75	094644	12.75	094675	6.38
000000000000000000000000000	094552	9.00	094583	13.50	094614	13.50	094645	13.50	094676	6.75
0000000000000000000000000000	094553	9.50	094584	14.25	094615	14.25	094646	14.25	094677	7.13
00000000000000000000000000000	094554	10.00	094585	15.00	094616	15.00	094647	15.00	094778	7.50
000000000000000000000000000000	094689	12.60	094691	18.90	094693	18.90	094695	18.90	094697	10.00
0000000000000000000000000000000	094690	15.20	094692	22.80	094694	22.80	094696	22.80	094698	12.50

\*Prices of 14 to 4, and 3 to 1 incl., respectively, are the same; in ordering, state exact size, as per bore of sleeve must be drilled to fit wire.

Type A connectors furnished, unless otherwise specified. When ordering Type B give number of strands in cable. When made with round nipple and round nuts the connector is styled Type C. Prices of Types A, B and C are the same.

#### Two-way Insulating Covers

Trade No.	Mfrs. No.	Description	Price, Each
679	4	For use on connector to take all sizes from Nos. 4 to 14, incl.	\$0.20
683	1	For use on connector to take Nos. 1, 2 and 3 wires	.26
680	00	For use on Nos. 00 and 0 connectors	.38
681	250000	For use also on Nos. 0000 and 000 connectors	.60

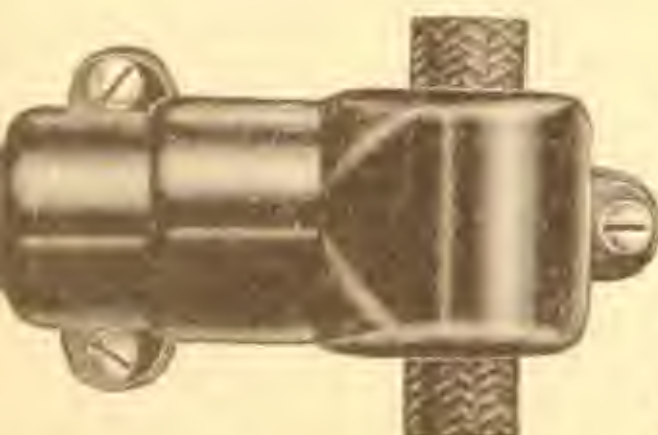
#### Cable Tap Insulating Covers

Trade No.	Mfrs. No.	Description	Price, Each
687	1	For use on No. 1 cable tap and also No. 1 with smaller branches	.60
688	00	For No. 00 and No. 0 cable taps and same sizes with smaller branches	.80
684	0000	For use on No. 0000 cable tap and No. 0000 main to smaller branches	1.00
699	250000	For cable tap of 250000 C. M. main, branches No. 1 and smaller	1.10
685	300000	For 300000 C.M. cable tap and various sizes of mains and branches	1.10
700	500000	For cable tap of 500000 C.M. main, branches No. 00 and smaller	1.70
686	500000	For 500000 C.M. cable tap and various sizes of mains and branches	2.00

#### EXTRA SLEEVES

Dossert Connectors of a given size may be used on cables of a smaller size by changing the sleeves. For example, a connector for No. 4 stranded cable may be sleeved to take any smaller size down to No. 14, either solid or stranded, a different sleeve being used for each size of wire or cable.

Trade No.	Size of Nut	Size of Cable	Price per 100	Trade No.	Size of Nut	Size of Cable	Price per 100
018502	4	4-14	\$8.00	018506	000	000-12	\$16.00
018503	1	1-12	9.00	018507	0000	0000-000	20.00
018504	0	0-12	12.00	018508	0000	00-0	20.00
018505	00	00-12	14.00	018509	0000	1-12	20.00



Insulated Cable Tap Cover



## CONNECTORS

### WIRE CONNECTORS

#### SCHEDULE H5

#### With Two Iron Set Screws



Connector with  
Two Set Screws

Trade No.	Mfrs. No.	Length Inches	DIAM. Outside	INCHES Inside	LARGEST Solid	Wire Str.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
067193	200	1 1/2	5/16	106	12		100	4	\$0.05
067194	201	1 1/2	3/16	147	8		100	4	.06
067195	202	1 3/4	3/8	185	6	8	100	6	.07
067196	203	1 7/8	7/16	221	4	5	100	8	.08
067197	204	1 7/8	1/2	232	2	3	100	10	.10
067198	205	1 7/8	9/16	242	0	2	50	6	.12
067199	206	1 7/8	5/8	258	00	1	50	7	.14

#### With Four Iron Set Screws



Connector with  
Four Set Screws

067200	207	1 7/8	7/16	221	4	5	100	9	.09
067201	208	1 7/8	1/2	232	2	3	100	10	.11
067202	209	1 7/8	9/16	242	0	2	50	6	.13
067203	210	1 7/8	5/8	258	00	1	50	6	.15
067204	211	2	11/16	270	000	00	50	8	.22
067205	212	2	3/4	282	0000	000	50	9	.28

### CAST COPPER CONNECTORS

#### Equipped with Set Screws

#### Tee Connectors



Tee  
Connector

Trade No.	Size of Rod Inches	Std. Pkg.	Shipping Wt., Lbs. Std. Pkg.	Price Each
22881	1/4	50	30	\$0.38
22882	3/8	50	30	.48
22883	1/2	50	30	.75
22884	9/16	50	35	.85
22885	5/8	25	25	1.10
22886	3/4	25	35	1.45
22887	1	25	45	1.70

#### Straight Connectors



Straight  
Connector

22889	1/4	100	30	.20
22890	3/8	100	40	.30
22891	1/2	50	25	.45
22892	9/16	50	30	.52
22893	5/8	50	40	.58
22894	3/4	50	50	.85

#### Elbow Connectors



Elbow  
Connector

22895	1/4	100	40	.25
22896	3/8	50	25	.35
22897	1/2	50	30	.50
22898	9/16	50	35	.60
22899	5/8	25	20	.80
22900	3/4	25	25	1.30

#### Bus Bar Connectors



Bus Bar  
Connector

Trade No.	Size of Hole Line Inches	Size of Hole Lead up to, Inches	Std. Pkg.	Shipping Wt., Lbs. Std. Pkg.	Price Each
22657	1/4	1/4	50	25	\$0.22
22658	3/8	3/8	50	30	.32
22659	1/2	1/2	25	15	.50
22660	5/8	5/8	25	30	.75
22661	3/4	3/4	25	40	1.20
22662	1	1	10	35	2.25
22663	1 1/4	1 1/4	10	45	3.70
22664	1 1/2	1 1/2	10	50	5.10

In ordering, give size of both line and lead



# MACALLEN INSULATING SPECIALTIES

## INSULATING JOINTS FOR COMBINATION FIXTURES



Combination  
Insulating Joint

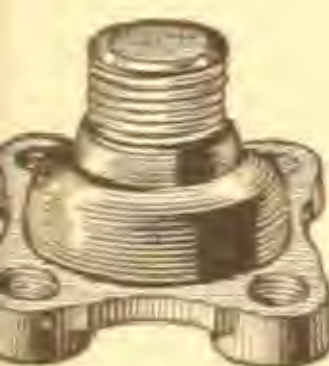
Trade No.	Mfrs. No.	Size of Thread Inches	Price Each
106070	7539	$\frac{1}{8} \times \frac{1}{8}$	\$0.72
106071	7540	$\frac{1}{4} \times \frac{1}{8}$	.72
106072	7500	$\frac{1}{4} \times \frac{1}{4}$	.72
106073	7501	$\frac{3}{8} \times \frac{1}{8}$	.72
106074	7502	$\frac{3}{8} \times \frac{1}{4}$	.72
106075	7503	$\frac{3}{8} \times \frac{3}{8}$	.72
106076	7504	$\frac{1}{2} \times \frac{1}{8}$	1.00
106077	7505	$\frac{1}{2} \times \frac{1}{4}$	1.00
106078	7506	$\frac{1}{2} \times \frac{3}{8}$	1.00
106079	7507	$\frac{1}{2} \times \frac{1}{2}$	1.00



Blank  
Insulating Joint

## BLANK INSULATING JOINTS FOR EXTERNALLY WIRED FIXTURES

106101	7739	$\frac{1}{8} \times \frac{1}{8}$	.72
106102	7740	$\frac{1}{4} \times \frac{1}{8}$	.72
106103	7700	$\frac{1}{4} \times \frac{1}{4}$	.72
106104	7701	$\frac{3}{8} \times \frac{1}{8}$	.72
106105	7702	$\frac{3}{8} \times \frac{1}{4}$	.72
106106	7703	$\frac{3}{8} \times \frac{3}{8}$	.72
106107	7704	$\frac{1}{2} \times \frac{1}{8}$	1.00
106108	7705	$\frac{1}{2} \times \frac{1}{4}$	1.00
106109	7706	$\frac{1}{2} \times \frac{3}{8}$	1.00
106110	7707	$\frac{1}{2} \times \frac{1}{2}$	1.00



No. 1335

## INSULATED FIXTURE STUDS

### Without Hickey, Malleable Iron

Trade No.	Mfrs. No.	Size Inches	Price Each
041206	1335	$\frac{1}{8}$	\$0.75
041207	1339	$\frac{1}{4}$	.75
041208	1340	$\frac{3}{8}$	.80

### With Hickey, Malleable Iron

041209	1329	$\frac{1}{8}$	.85
041210	1330	$\frac{1}{4}$	.85
041211	1334	$\frac{3}{8}$	.90

The above fixture studs fit standard outlet boxes.



Hickey

## MALE AND FEMALE HICKEYS

Both Ends Tapped for Standard Iron Pipe Sizes

### Malleable Iron

### Composition Brass

Size Inches	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
$\frac{1}{8} F. \times \frac{1}{8} M.$	106033	1517	\$0.10	106047	1504	\$0.30
$\frac{1}{8} F. \times \frac{1}{4} M.$	106034	1518	.10	106048	1505	.30
$\frac{1}{8} F. \times \frac{3}{8} M.$	106035	1535	.13	106049	1534	.40
$\frac{1}{4} F. \times \frac{1}{8} M.$	106036	1519	.10	106050	1506	.30
$\frac{1}{4} F. \times \frac{1}{4} M.$	106037	1520	.10	106051	1507	.30
$\frac{1}{4} F. \times \frac{3}{8} M.$	106038	1536	.13	106052	1508	.40
$\frac{3}{8} F. \times \frac{1}{8} M.$	106039	1537	.13	106053	1509	.40
$\frac{3}{8} F. \times \frac{1}{4} M.$	106040	1538	.13	106054	1585	.40
$\frac{3}{8} F. \times \frac{3}{8} M.$	106041	1539	.15	106055	1510	.50
$\frac{3}{8} F. \times \frac{1}{2} M.$	106042	1540	.18	106056	1512	.60
$\frac{1}{2} F. \times \frac{1}{8} M.$	106043	1586	.18	106057	1513	.60
$\frac{1}{2} F. \times \frac{1}{4} M.$	106044	1587	.18	106058	1514	.60
$\frac{1}{2} F. \times \frac{3}{8} M.$	106045	1588	.18	106059	1515	.60
$\frac{1}{2} F. \times \frac{1}{2} M.$	106046	1589	.20	106060	1516	.75



M. and F. Hickey



## RIGID IRON CONDUIT



Size In.	Conduit		Thick- ness	Conduit		Price per Foot	Couplings		Wt. Lbs. per 100	Elbows		Price Each
	Outside	Inside		Wt. per Foot	Threads per inch		Wt. per 100 Lbs.	Price Each		Radius In.	Offset In.	
1/4	540	364	.088	425	18	\$0.08 1/2	6.0	\$0.05	42	4.250	7.500	\$0.19
3/8	675	493	.091	568	18	.08 1/2	9.5	.06	53	4.250	7.500	.19
1/2	840	622	.109	852	14	.08 1/2	11.6	.07	75	4.250	7.375	.19
3/4	1 050	824	.113	1 134	14	.11 1/2	20.9	.10	120	5.375	8.375	.25
1	1 315	1 049	.133	1 684	11 1/2	.17	34.3	.13	200	5.750	9.500	.37
1 1/4	1 660	1 380	.140	2 281	11 1/2	.23	53.5	.17	300	7.250	10.875	.45
1 1/2	1 900	1 610	.145	2 731	11 1/2	.27 1/2	74.3	.21	427	8.250	12.625	.60
2	2 375	2 067	.154	3 678	11 1/2	.37	120.8	.28	700	9.500	15.250	1.10
2 1/2	2 875	2 469	.203	5 819	8	.58 1/2	172.0	.40	1300	10.500	17.375	1.80
3	3 500	3 068	.216	7 616	8	.76 1/2	249.8	.60	1700	13.000	19.500	4.80
3 1/2	4 000	3 548	.226	9 202	8	.92	424.1	.80	2300	15.000	21.250	10.60
4	4 500	4 026	.237	10 889	8	1.09	474.1	1.00	2700	16.000	22.500	12.25
4 1/2	5 000	4 506	.247	12 642	8	1.27	550.0	1.50	3100	18.000	24.375	18.55
5	5 563	5 047	.258	14 810	8	1.48	700.0	1.65	5500	24.000	32.000	25.75
6	6 625	6 065	.280	19 185	8	1.92	750.0	2.40	9000	30.000	39.750	32.00

Tubes in 10-foot lengths, threaded both ends, with one coupling.

Prices on special sizes, bends and lengths on application.

Conduits in 10-foot lengths, threaded on both ends with one coupling.

Conduit pipe is known and spoken of by its nominal inside diameter.

## CONDUIT SIZES FOR DIFFERENT SIZE WIRES

No. B. & S.	Circular Mills	Amperes Rubber	Size of Conduit			Circular Mills	Amperes Rubber	Size of Conduit		
			1-wire	2-wire	3-wire			1-wire	2-wire	3-wire
18	1020	3	1/2	1/2	1/2	500000	390	2	3	3
16	2583	6	1/2	3/2	1/2	550000	420	2	3 1/2	4
14	4107	12	1/2	1/2	3/4	600000	450	2	3 1/2	4
12	6530	17	1/2	3/4	3/4	650000	475	2	3 1/2	4
10	10380	24	1/2	3/4	1	700000	500	2	3 1/2	4
8	16510	33	1/2	1	1	750000	525	2	3 1/2	4
6	26250	46	3/4	1	1 1/4	800000	550	2	3 1/2	4
5	33100	54	3/4	1 1/4	1 1/4	850000	575	2 1/2	4	4
4	41740	65	3/4	1 1/4	1 1/2	900000	600	2 1/2	4	4 1/2
3	52630	76	3/4	1 1/4	1 1/2	950000	625	2 1/2	4	4 1/2
2	66370	90	3/4	1 1/2	2	1000000	650	2 1/2	4	4 1/2
1	83690	107	1	1 1/2	2	1100000	690	2 1/2	4	5
0	105500	127	1	2	2	1200000	730	2 1/2	4	5
00	133100	150	1	2	2	1300000	770	2 1/2	4 1/2	5
000	167800	177	1 1/4	2	2 1/2	1400000	810	3	4 1/2	6
0000	211600	210	1 1/4	2	2 1/2	1500000	850	3	5	6
....	200000	200	1 1/4	2	2 1/2	1600000	890	3	5	6
....	250000	235	1 1/2	2 1/2	2 1/2	1700000	930	3	5	6
....	300000	270	1 1/2	2 1/2	3	1800000	970	3	6	7
....	350000	300	1 1/2	2 1/2	3	1900000	1010	3	6	7
....	400000	330	1 1/2	3	3	2000000	1050	3	6	7
....	450000	380	2	3	3 1/2	.....	....	...	...	...



# WEIGHTS OF CONDUIT, ELBOWS AND COUPLINGS

## CONDUIT

Size in.	QUANTITY, IN FEET													
	500	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	15000	20000	25000
	WEIGHT, POUNDS													
1/2	426	852	1704	2556	3408	4260	5112	5964	6816	7668	8520	12780	17040	21300
3/4	567	1134	2268	3402	4536	5670	6804	7938	9072	10206	11340	17010	22680	28350
	842	1684	3368	5052	6736	8420	10104	11788	13472	15156	16840	25260	33680	42100
1/4	1140 1/2	2281	4562	6843	9124	11405	13686	15967	18248	20529	22810	34215	45620	57025
1/2	1365 1/2	2731	5462	8193	10924	13655	16386	19117	21848	24579	27310	40965	54620	68275
	1839	3678	7356	11034	14712	18390	22068	25746	29424	33102	36780	55170	73560	91950
1 1/2	2909 1/2	5819	11638	17457	23276	29095	34914	40733	46552	52371	58190	87285	116380	145475
	3808	7616	15232	22848	30464	38080	45696	53312	60928	68544	76160	114240	152320	190400
1 1/2	4601	9202	18404	27606	36808	46010	55212	64414	73616	82818	92020	138030	184040	230050
	5444 1/2	10889	21778	32667	43556	54445	65334	76223	87112	98001	108890	163335	217780	272225
1 3/4	6321	12642	25284	37926	50568	63210	75852	88494	101136	113778	126420	189630	252840	316050
	7405	14810	29620	44430	59240	74050	88860	103670	118480	133290	148100	222150	296200	370250

## ELBOWS

Size in.	QUANTITY													
	1	2	3	4	5	6	7	8	9	10	15	20	25	
	WEIGHT, POUNDS													
3/4	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12	18	24	30	
	2	4	6	8	10	12	14	16	18	20	30	40	50	
1/4	3	6	9	12	15	18	21	24	27	30	45	60	75	
1 1/2	4.2	8.5	12.8	17.1	21.3	25.6	29.8	34.1	38.4	42.7	64.1	85.4	106.7	
	7	14	21	28	35	42	49	56	63	70	105	140	175	
1 1/2	13	26	39	52	65	78	91	104	117	130	195	260	325	
	17	34	51	68	85	102	119	136	153	170	255	340	425	
1 3/2	23	46	69	92	115	138	161	184	207	230	345	460	575	
	27	54	81	108	135	162	189	216	243	270	405	540	675	
3/2	31	62	93	124	155	186	217	248	279	310	465	620	775	
	55	110	165	220	275	330	385	440	495	550	825	1100	1375	

## COUPLINGS

Size in.	QUANTITY												
	1	2	3	4	5	6	7	8	9	10	15	20	25
	WEIGHT, POUNDS												
1/4	.2	.4	.6	.8	1	1.2	1.4	1.6	1.8	2.3	3.1	4.1	5.2
	.3	.6	1	1.3	1.7	2	2.4	2.7	3	3.4	5.1	6.8	8.5
1/4	.5	1	1.6	2.1	2.6	3.2	3.7	4.2	4.8	5.3	8	10.7	13.3
1/2	.7	1.4	2.2	2.9	3.7	4.4	5.2	5.9	6.6	7.4	11.1	14.8	18.5
	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12.1	18.1	24.1	30.2
1 1/2	1.7	3.4	5.1	6.8	8.6	10.3	12	13.7	15.4	17.2	25.8	34.4	43
	2.4	4.9	7.4	9.9	12.4	14.9	17.4	19.9	22.4	24.9	37.4	49.9	62.4
1 1/2	4.2	8.4	12.7	16.9	21.2	25.4	29.6	33.9	38.1	42.4	63.6	84.8	106
	4.7	9.4	14.2	18.9	23.7	28.4	33.1	37.9	42.6	47.4	71.1	94.8	118.5
1 3/4	5.5	11	16.5	22	27.5	33	38.5	44	49.5	55	82.5	110	137.5
	7	14	21	28	35	42	49	56	63	70	105	140	175

































## STANDARD SIZES OF CONDUITS

FOR THE INSTALLATION OF WIRES AND CABLES

As Adopted and Recommended by The National Electrical Contractor's Association

Maximum Capacity—Single Wire Maximum Capacity—Two Wires Maximum Capacity—Three Wires

		
1 1/2"	1 1/2"	1 1/2"
		
1"	1"	1"
		
1"	1"	1"
		
1 1/4"	1 1/4"	1 1/4"
		
1 1/2"	1 1/2"	1 1/2"
		
2"	2"	2"
		
2 1/2"	2 1/2"	2 1/2"
		
3"	3"	3"
		
3 1/2"	3 1/2"	3 1/2"
		
4"	4"	4"



# STANDARD SIZES OF CONDUITS

## FOR THE INSTALLATION OF WIRES AND CABLES

As adopted and recommended by 'The National Electrical Contractors' Association of the United States.

Conduit sizes based on the use of not more than three 90° elbows in runs taking up to and including No. 10 wires; and two elbows for wires larger than No. 10. Wires No. 8 and larger are stranded.

### NUMBER OF WIRES IN SYSTEM

Size B. & S.	Cap. Amps.	SIZE OF CONDUIT, INCHES							
		ONE WIRE IN A CONDUIT		TWO WIRES IN A CONDUIT		THREE WIRES IN A CONDUIT		FOUR WIRES IN A CONDUIT	
		Internal	External	Internal	External	Internal	External	Internal	External
14	15	1/2	.84	1/2	.84	1/2	.84	3/4	1.05
12	20	1/2	.84	3/4	1.05	3/4	1.05	3/4	1.05
10	25	1/2	.84	3/4	1.05	3/4	1.05	1	1.31
8	35	1/2	.84	1	1.31	1	1.31	1	1.31
6	50	1/2	.84	1	1.31	1 1/4	1.66	1 1/4	1.66
5	55	3/4	1.05	1 1/4	1.66	1 1/4	1.66	1 1/4	1.66
4	70	3/4	1.05	1 1/4	1.66	1 1/4	1.66	1 1/2	1.9
3	80	3/4	1.05	1 1/4	1.66	1 1/4	1.66	1 1/2	1.9
2	90	3/4	1.05	1 1/4	1.66	1 1/2	1.9	1 1/2	1.9
1	100	3/4	1.05	1 1/2	1.9	1 1/2	1.9	2	2.37
0	125	1	1.31	1 1/2	1.9	2	2.37	2	2.37
00	150	1	1.31	2	2.37	2	2.37	2 1/2	2.87
000	175	1	1.31	2	2.37	2	2.37	2 1/2	2.87
0000	225	1 1/4	1.66	2	2.37	2 1/2	2.87	2 1/2	2.87
00000	237	1 1/4	1.66	2 1/2	2.87	2 1/2	2.87	3	3.5
000000	275	1 1/4	1.66	2 1/2	2.87	2 1/2	2.87	3	3.5
0000000	325	1 1/4	1.66	3	3.5	3	3.5	3 1/2	4
00000000	400	1 1/2	1.9	3	3.5	3	3.5	3 1/2	4
000000000	450	1 1/2	1.9	3	3.5	3 1/2	4	....	....
0000000000	500	2	2.37	3 1/2	4	3 1/2	4	....	....
00000000000	550	2	2.37	3 1/2	4	4	4.5	....	....
000000000000	600	2	2.37	3 1/2	4	4	4.5	....	....
0000000000000	650	2	2.37	4	4.5	4	4.5	....	....
00000000000000	750	2 1/2	2.87	4 1/2	5	4 1/2	5	....	....
000000000000000	850	2 1/2	2.87	4 1/2	5	5	5.56	....	....
0000000000000000	950	3	3.5	5	5.56	5	5.56	....	....
00000000000000000	1050	3	3.5	5	5.56	6	6.62	....	....

### DUPLEX WIRE

14	15	1/2	.84	3/4	1.05	1	1.31	1	1.31
12	20	1/2	.84	3/4	1.05	1	1.31	1 1/4	1.66
10	25	3/4	1.05	1	1.31	1 1/4	1.66	1 1/4	1.66

Example: To ascertain the size of conduit for three No. 0000 wire, follow down the wire column to No. 0000 and then across to the section headed "Three Wires in a Conduit," and it will be seen that 2 1/2-inch conduit is the size to use and that the external diameter is 2.87 inches.

### THREE-WIRE CONVERTIBLE SYSTEM

SIZE OF WIRES		SIZE OF WIRES		SIZE OF WIRES		SIZE OF WIRES	
Two-Wire	One-Wire	Two-Wire	One-Wire	Two-Wire	One-Wire	Two-Wire	One-Wire
Size	Size	Size	Size	Size	Size	Size	Size
B. & S.	B. & S.	B. & S.	B. & S.	B. & S.	B. & S.	B. & S.	B. & S.
SIZE OF CONDUIT, INCHES		SIZE OF CONDUIT, INCHES		SIZE OF CONDUIT, INCHES		SIZE OF CONDUIT, INCHES	
Internal	External	Internal	External	Internal	External	Internal	External
14	10	3/4	1.05	00	350000	2 1/2	2.87
12	8	3/4	1.05	000	400000	2 1/2	2.87
10	6	1	1.31	0000	550000	3	3.5
8	4	1	1.31	250000	600000	3	3.5
6	2	1 1/4	1.66	300000	800000	3	3.5
5	1	1 1/4	1.66	400000	1000000	3 1/2	4
4	0	1 1/2	1.9	500000	1250000	4	4
3	00	1 1/2	1.9	600000	1500000	4	4.5
2	000	1 1/2	1.9	700000	1750000	4 1/2	5
1	0000	2	2.37	800000	2000000	4 1/2	5
0	250000	2	2.37	.....	.....	....	....



## T &amp; B CONDUIT FITTINGS



Nos. 052175-88



Nos. 052217-30



No. 052231



No. 052233



No. 052235

## CONDUIT BUSHINGS

Trade No.	Size Inches	Carton Quantity	Std. Pkg.	Price per 100
052175	$\frac{3}{8}$	100	1000	\$6.00
052176	$\frac{1}{2}$	100	1000	6.00
052177	$\frac{3}{4}$	100	1000	8.00
052178	1	100	1000	15.00
052179	$1\frac{1}{4}$	100	500	20.00
052180	$1\frac{1}{2}$	50	200	25.00
052181	2	50	100	40.00
052182	$2\frac{1}{2}$	25	100	60.00
052183	3	25	100	90.00
052184	$3\frac{1}{2}$	25	25	200.00
052185	4	25	25	300.00
052186	$4\frac{1}{2}$	20	20	400.00
052187	5	20	20	500.00
052188	6	15	15	600.00

## SPECIAL STEEL LOCKNUTS

Trade No.	Size Inches	Carton Quantity	Std. Pkg.	Price per 100
052217	$\frac{3}{8}$	100	5000	2.50
052218	$\frac{1}{2}$	100	5000	2.50
052219	$\frac{3}{4}$	100	5000	3.50
052220	1	100	1000	6.00
052221	$1\frac{1}{4}$	100	500	10.00
052222	$1\frac{1}{2}$	50	250	15.00
052223	2	50	100	20.00
052224	$2\frac{1}{2}$	25	100	30.00
052225	3	25	100	50.00
052226	$3\frac{1}{2}$	25	25	70.00
052227	4	25	25	100.00
052228	$4\frac{1}{2}$	20	20	140.00
052229	5	20	20	160.00
052230	6	15	15	200.00

## HICKEY FIXTURE STUDS

This stud is made of malleable iron, and is furnished in galvanized finish. As shown by illustration, all 4 prongs have extra long slots to allow adjustment. With this stud no hickey are required on straight electric work if combination insulating joint is used.

Trade No.	Size of Stud Inches	Carton Quantity	Std. Pkg.	Price per 100
052231	$\frac{3}{8}$	250	1000	\$5.00
052232	$\frac{1}{2}$	250	1000	6.50

Stove bolts for studs are extra.

## FOUR-PRONG FIXTURE STUDS

Designed to be used either on the inside of box or, better yet, on the outside, with shank passing through center hole. The weight of fixture is then supported by the entire box, instead of by small screws or bolts, as is the case with other studs.

These studs are made from the best grade of malleable iron, are galvanized, and the thread is machine cut.

Trade No.	Size of Stud Inches	Carton Quantity	Std. Pkg.	Price per 100
052233	$\frac{3}{8}$	250	1000	5.00
052234	$\frac{1}{2}$	250	1000	6.50

Stove bolts for studs are extra.

## INSULATED STUDS, FOR STRAIGHT ELECTRIC WORK

Stud can be attached to any standard outlet box, leaving plenty of room for bushings.

Height of stud is but  $1\frac{3}{8}$  inches, so may be used with any style of canopy or with fixtures with flat backs.

One device to replace 2, for the T & B. Insulating Stud takes the place of both the standard fixture stud and the old style insulating joint in one-half the space.

Trade No.	Size of Stud	Std. Pkg.	Price per 100
052235	$\frac{3}{8}$ -inch insulated stud	100	\$50.00



## T & B CONDUIT FITTINGS



Split Tee



Split Elbow



Split Coupling

### SPLIT TEES

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., lbs. per 100	Price per 100
199930	685	1/2-inch run through, 1/2-inch tap off	100	32	\$35 00
199931	686	3/4-inch run through 1/2-inch tap off	50	37	40 00
199932	687	3/4-inch run through 3/4-inch tap off	50	39	45 00
199933	688	1-inch run through 1/2-inch tap off	25	65	50 00
199934	689	1-inch run through 3/4-inch tap off	25	66	55 00
199935	690	1-inch run through 1-inch tap off	25	77	60 00

All split tees, couplings and elbows are malleable iron, heavily galvanized.

All fittings are bushed and flanged at joints to prevent entrance of dust, etc.

### SPLIT ELBOWS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., lbs. per 100	Price per 100
199936	695	For 1/2-inch conduit	100	27	\$26 00
199937	696	For 3/4-inch conduit	50	34	30 00
199938	697	For 1-inch conduit	25	54	40 00

### SPLIT COUPLINGS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., lbs. per 100	Price per 100
199939	855	For 1/2-inch conduit	100	18	\$26 00
199940	856	For 3/4-inch conduit	50	25	30 00
199941	857	For 1-inch conduit	25	37	40 00

### OFFSET FIXTURE STUDS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., lbs. per 100	Price per 100
199942	199	3/8-inch size stud, will give adjustment 3/4-inch in any direction	100	22	\$30 00

Price includes one 3/8-inch locknut for use in locking Offset Stud to box stud or gas pipe.

### BRASS FLOOR COUPLINGS

Designed for use with bushed elbows and bulb tees listed below.

Trade No.	Mfrs. No.	Description	Outside Diam., in.	Std. Pkg.	Wt., lbs. per 100	Price per 100
199943	480	1/2-inch floor couplings	1 5/16	100	23	\$80 00
199944	481	3/4-inch floor couplings	1 9/16	100	35	95 00
199945	482	1-inch floor couplings	1 15/16	25	58	115 00
199946	483	1 1/4-inch floor couplings	2 3/8	10	95	250 00

### BUSHED ELBOWS AND BULB TEES

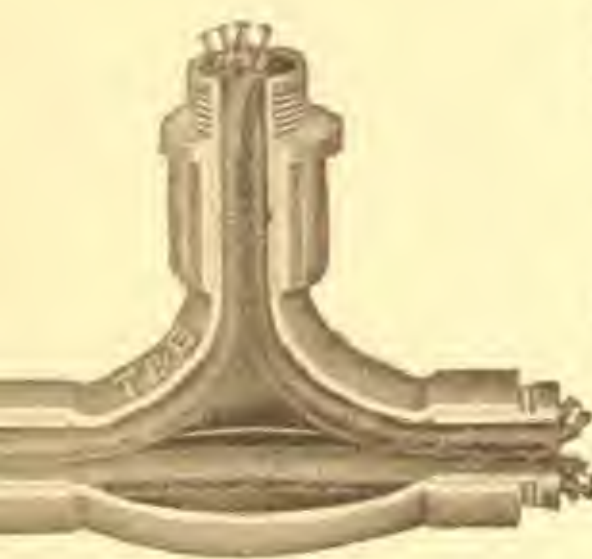
Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., lbs. per 100	Price per 100
199947	460	1/2-inch bushed elbow	100	28	\$32 00
199948	461	3/4-inch bushed elbow	100	46	45 00
199949	462	1-inch bushed elbow	25	72	65 00
199950	463	1 1/4-inch bushed elbow	10	130	200 00
199951	464	3/4-inch bulb tee	50	102	100 00
199952	465	1-inch bulb tee	25	155	150 00
199953	466	1 1/4-inch bulb tee	10	282	400 00
199954	467	3/4-inch to 1/2-inch reducer	100	10	10 00



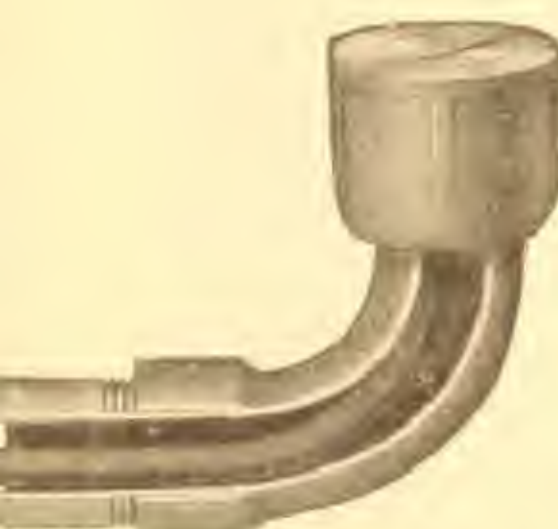
Offset Fixture Stud



Brass Floor Coupling



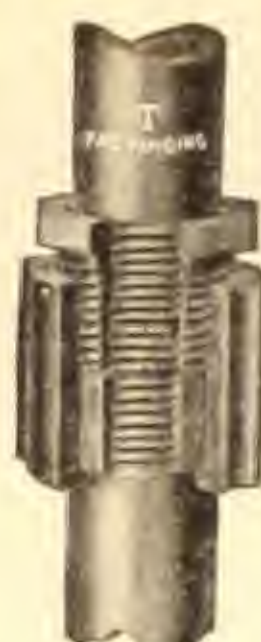
Tee with Floor Coupling



Elbow with Floor Coupling



## T &amp; B CONDUIT FITTINGS



No. 675

## ERICKSON COUPLINGS

Malleable Iron, Galvanized

Does away with running threads.

Permits run of conduit to be opened at any point desired.

Enables circuit to be started from the two outlets and makes a good strong connection at any point in the run. Saves labor.

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
199968	675	$\frac{1}{2}$	100	26	\$16.00
199969	676	$\frac{3}{4}$	50	34	20.00
199970	677	1	25	44	28.00
199971	678	$1\frac{1}{4}$	25	104	50.00
199972	679	$1\frac{1}{2}$	25	140	75.00

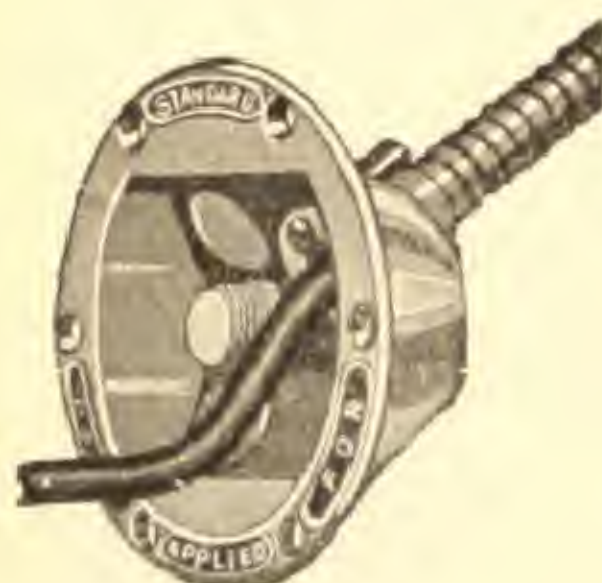
## STANDARD BOXES FOR ARMORED CONDUCTORS

Designed principally for finished house work.

Fits flush with the surface of the wall.

Two sides of the box, in which four plugged openings are provided, are made on an angle, making box easy to install even in narrow partitions.

Boxes are thoroughly galvanized.



No. 161

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. per 100	Price per 100
199973	160	Box for straight electric work, $\frac{3}{8}$ -inch fixture stem . . . .	100	74	\$20.00
199974	161	Box for comb. gas and electric, to slip $\frac{3}{8}$ -inch gas pipe . .	100	76	20.00

## CHASE COUPLINGS

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
199975	830	$\frac{1}{4}$	100	4	\$10.00
199976	831	$\frac{3}{8}$	100	5	10.00
199977	832	$\frac{1}{2}$	100	7	10.00
199978	833	$\frac{3}{4}$	100	10	12.00

Chase Couplings are plain finish, but can be galvanized to order.

## CHASE NIPPLES

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
199979	840	$\frac{1}{4}$	100	2	\$5.00
199980	841	$\frac{3}{8}$	100	3	5.00
199981	842	$\frac{1}{2}$	100	5	5.00
199982	843	$\frac{3}{4}$	100	6	8.00
199983	844	1	100	12	15.00
199984	845	$1\frac{1}{4}$	100	19	18.00
199985	846	$1\frac{1}{2}$	50	27	20.00
199986	847	2	50	45	30.00
199987	848	$2\frac{1}{2}$	25	68	50.00
199988	849	3	25	108	80.00
199989	850	$3\frac{1}{2}$	20	122	250.00

When Chase Nipples and Chase Couplings are used the box can be removed without disturbing the conduit.

Chase Nipples are galvanized.



Chase Coupling

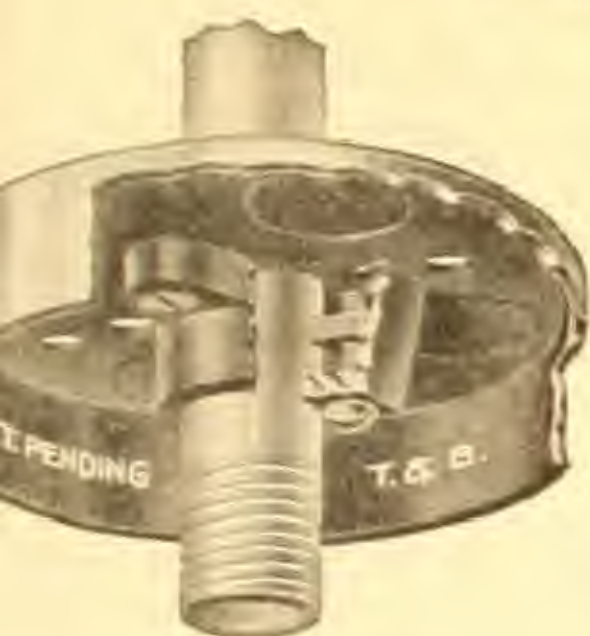


Chase Nipple



## T & B CONDUIT FITTINGS

### DEAD GROUND BOX SUPPORTS



No. 166

Malleable iron, galvanized.  
Makes a dead ground between box and gas pipe.  
Permits the box to be fastened just where it is wanted on the gas pipe or hanger, and to hold it in the right place.  
They can't slip, the nut bites into the metal.

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
199892	166	$\frac{3}{8}$	100	12 $\frac{1}{2}$	\$5 00
199893	167	$\frac{1}{2}$	100	12	5 00
Stove bolts for attaching support to box			100	1	.50

### BOX HANGERS

Trade No.	Mfrs. No.	Threaded Loops	Std. Pkg.	Wt. Lbs. per 100	Price per 100
199894	790	$\frac{3}{8}$ -inch drop, $\frac{3}{8}$ -inch run	100	7	\$3 50
199895	791	$\frac{3}{8}$ -inch drop, $\frac{1}{2}$ -inch run	100	9	4 50
199896	792	$\frac{1}{2}$ -inch drop, $\frac{1}{2}$ -inch run	100	11	5 50
199897	793	$\frac{1}{2}$ -inch drop, $\frac{3}{4}$ -inch run	100	15	6 50

### DROP NIPPLES

#### $\frac{1}{2}$ -inch I. P. Size

Trade No.	Mfrs. No.	Length Inches	Std. Pkg.	Wt. Lbs. per 100	Price per 100
199898	796	6	100	28	\$14 00
199899	797	8	100	34	15 00
199900	798	10	100	42	18 00
199901	799	12	100	50	20 00
199902	800	14	100	58	22 00
199903	801	16	100	66	24 00
199904	802	18	100	75	26 00

#### $\frac{3}{8}$ -inch I. P. Size

Trade No.	Mfrs. No.	Length Inches	Std. Pkg.	Wt. Lbs. per 100	Price per 100
199905	803	6	100	35	11 00
199906	804	8	100	45	12 00
199907	805	10	100	60	13 00
199908	806	12	100	75	14 00
199909	807	14	100	92	16 00
199910	808	16	100	100	18 00
199911	809	18	100	108	20 00

The Drop Nipples have a two-inch running thread on lower end.

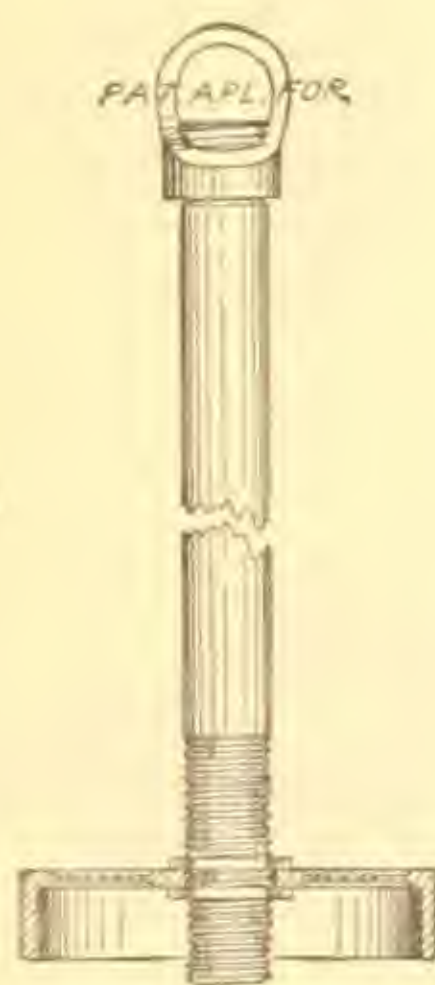
The hanger locks itself to the cross-arm. It cannot slip. Cross-arms are not included.

Loops have slot on inside of threaded end, if nail is driven therein, it is impossible to turn hanger.

### T & B PENNIES

Nothing can drop into pipe if pennies are used.  
Far better than wood plugs and very cheap.

Trade No.	Mfrs. No.	For Size Pipe, Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
199912	815	$\frac{1}{2}$	1000	4	\$0 40
199913	816	$\frac{3}{4}$	500	5	.60
199914	817	1	250	8	.80
199915	818	1 $\frac{1}{4}$	250	15	1 20
199916	819	1 $\frac{1}{2}$	100	20	1 60
199917	820	2	100	30	2 00
199918	821	2 $\frac{1}{2}$	100	41	3 00
199919	822	3	100	63	4 00



No. 796



THE PENNY IN PLACE



THE PENNY

Steel Conduit Penny



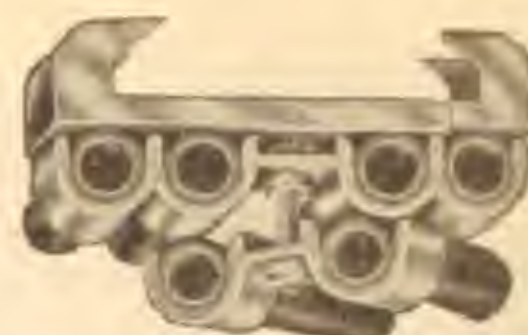
## T &amp; B ADJUSTABLE CONDUIT HANGERS



Type A



Extension



Type B

Will fit any flange from  $2\frac{3}{4}$  inches to 12 inches. They are adjustable for varying plaster lines, and will support any number of conduits from one to eight, which may run at an angle with the beams and close against the beam, or far enough below to permit a second line of conduits to be run above. Additional runs of conduit can be added without interfering with lines already in position. It is not necessary to loosen clamp to meet any condition which may arise.

Clamps are made of stamped steel. Extension used with two outer parts of Type A Clamp, becomes Type C Clamp.

## ADJUSTABLE HANGERS

Trade No.	Mfrs. No.	Type	Fits Flange Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
199818	700	A	$2\frac{3}{4}$ - $7\frac{3}{8}$	100	33	\$30.00
199819	701	B	5 - $8\frac{3}{4}$	100	62	45.00
199820	702	C	$8\frac{1}{2}$ - $11\frac{3}{8}$	100	46	45.00

Prices of adjustable hangers include bolts.

## SPECIAL BOLTS

199955	703			100	6	5.00
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## SUPPORTS

Trade No.	Mfrs. No.	Will Support Conduit	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Trade No.	Mfrs. No.	Will Support Conduit	Std. Pkg.	Wt., Lbs. per 100	Price per 100
199821	733	1 pc. $\frac{1}{2}$ in.	100	12	\$8.00	199829	741	2 pc. $\frac{1}{2}$ in.	100	25	\$12.00
199822	734	1 pc. $\frac{3}{4}$ in.	100	13	10.00	199830	742	4 pc. $\frac{1}{2}$ in.	100	39	18.00
199823	735	1 pc. 1 in.	50	15	16.00	199831	743	2 pc. $\frac{3}{4}$ in.	50	32	14.00
199824	736	1 pc. $1\frac{1}{4}$ in.	50	18	20.00	199832	744	4 pc. $\frac{3}{4}$ in.	50	47	22.00
199825	737	1 pc. $1\frac{1}{2}$ in.	25	19	24.00	199833	745	2 pc. 1 in.	25	40	20.00
199826	738	1 pc. 2 in.	25	23	32.00	199834	746	2 pc. $1\frac{1}{4}$ in.	25	52	24.00
199827	739	1 pc. $2\frac{1}{2}$ in.	25	26	40.00	199835	747	2 pc. $1\frac{1}{2}$ in.	25	62	28.00
199828	740	1 pc. 3 in.	25	30	50.00						

## CLAMPS COMPLETE

With Supports as Listed Below

Hanger will Support Conduit			Type A					Type B				
			Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100	Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
1 pc. $\frac{1}{2}$ in.			199836	710	100	45	\$34.00	199859	760	100	74	\$49.00
1 pc. $\frac{3}{4}$ in.			199837	711	100	46	38.00	199860	761	100	75	53.00
1 pc. 1 in.			199838	712	50	48	44.00	199861	762	50	77	59.00
1 pc. $1\frac{1}{4}$ in.			199839	713	50	51	48.00	199862	763	50	80	63.00
1 pc. $1\frac{1}{2}$ in.			199840	714	25	52	52.00	199863	764	25	81	67.00
1 pc. 2 in.			199841	715	25	56	60.00	199864	765	25	85	75.00
1 pc. $2\frac{1}{2}$ in.			199842	716	25	59	68.00	199865	766	25	88	83.00
1 pc. 3 in.			199843	717	25	63	78.00	199866	767	25	92	93.00
2 pc. $\frac{1}{2}$ in.			199844	718	100	58	38.00	199867	768	100	87	53.00
2 pc. $\frac{3}{4}$ in.			199845	719	100	65	42.00	199868	769	100	94	57.00
4 pc. $\frac{1}{2}$ in.			199846	720	50	72	46.00	199869	770	50	101	61.00
4 pc. $\frac{3}{4}$ in.			199847	721	50	80	50.00	199870	771	50	109	65.00
6 pc. $\frac{1}{2}$ in.			199848	722	25	97	54.00	199871	772	25	126	69.00
6 pc. $\frac{3}{4}$ in.			199849	723	25	112	62.00	199872	773	25	141	77.00
8 pc. $\frac{1}{2}$ in.			199850	724	25	111	62.00	199873	774	25	140	77.00
8 pc. $\frac{3}{4}$ in.			199851	725	25	127	70.00	199874	775	25	160	85.00
2 pc. $\frac{1}{2}$ in. & 2 pc. $\frac{3}{4}$ in.			199852	726	25	90	50.00	199875	776	25	119	65.00
2 pc. $\frac{1}{2}$ in. & 4 pc. $\frac{3}{4}$ in.			199853	727	25	105	58.00	199876	777	25	134	73.00
4 pc. $\frac{1}{2}$ in. & 2 pc. $\frac{3}{4}$ in.			199854	728	25	104	58.00	199877	778	25	133	73.00
4 pc. $\frac{1}{2}$ in. & 4 pc. $\frac{3}{4}$ in.			199855	729	25	119	66.00	199878	779	25	148	81.00
2 pc. 1 in.			199856	730	25	73	48.00	199879	780	25	102	63.00
2 pc. $1\frac{1}{4}$ in.			199857	731	25	85	52.00	199880	781	25	114	67.00
2 pc. $1\frac{1}{2}$ in.			199858	732	25	95	56.00	199881	782	25	124	71.00



## GROUND CLAMPS

### BLACKBURN GROUND CLAMPS

Simple in construction, being composed of a flexible perforated copper band to encircle the pipe, and a removable copper lug, with a boss raised on the flat end that fits into perforations in the band, and through which is threaded the tightening screw with locknut.

The lug is drilled for a No. 4 ground wire, ready for soldering while the flat end with boss is milled to give a clean, smooth contact surface on which to clamp the band.

#### For Telephone and Similar Circuits

Trade No.	Type No.	Price per 100	Trade No.	Type No.	Price per 100
07795	0	\$11.00	07798	2	\$12.50
07797	A-1	12.00			

No. 0 fits  $\frac{1}{2}$ -inch ground rods. For rural exchanges.

No. A-1 fits  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1 and  $1\frac{1}{4}$ -inch pipe. Improved style. Standard size.

No. 2 fits  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$  and 3-inch pipe. Special size.

#### For Power and Lighting Circuits

Trade No.	Type No.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
58116	3	50	12	\$20.00
58117	4	50	16	24.00

No. 3 fits  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1 and  $1\frac{1}{4}$ -inch pipe, BX cable and flexible conduit.

No. 4 fits  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$  and 3-inch pipe.

### SHAWMUT GROUND CLAMPS

For grounding secondary distributing systems, conduit installations, and metal cable sheaths. It is made of stamped copper formed to fit the pipe tightly, thus insuring maximum contact, and can be applied quickly by either screwdriver or pliers. Lug takes No. 4 wire.

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Price Each
58118	3660	$\frac{3}{8}$	100	\$0.24
036217	3661	$\frac{1}{2}$	100	.24
036218	3662	$\frac{3}{4}$	100	.28
036219	3663	1	50	.34
036220	3664	$1\frac{1}{4}$	50	.40
036221	3665	$1\frac{1}{2}$	50	.46
036222	3666	2	25	.52
036223	3667	$2\frac{1}{2}$	25	.58
036224	3668	3	15	.64

### SHERMAN GROUND CLAMPS

Material for this clamp is flexible sheet copper, with a stout bolt heavily coppered to prevent corrosion, and a brass washer. Band is half-formed at one end, making it easy to wrap around the pipe straight, and there is absolutely no chance for soft copper to become kinked or twisted. A screw only is necessary to apply. Adjustable. Four sizes cover all requirements. Carefully boxed in paper cartons.

Trade No.	Mfrs. No.	Size Pipe Inches	Carton	Std. Pkg.	Approx. Wt. Std. Pkg.	Price Each
185053	1	$\frac{3}{8}$ to 1	100	1000	110	\$0.20
185054	2	$\frac{3}{8}$ to 2	100	1000	150	.25
185055	3	$\frac{3}{8}$ to 3	50	500	100	.30
185056	4	$\frac{3}{8}$ to 4		250	52	.60

### P. & S. CONDUIT CLAMPS

Trade No.	Mfrs. No.	Size Inches	Price Each
027121	1401	$\frac{1}{2}$	\$0.05
027122	1402	$\frac{3}{4}$	.07
027123	1403	1	.09
027124	1404	$1\frac{1}{4}$	.11
027125	1405	$1\frac{1}{2}$	.13



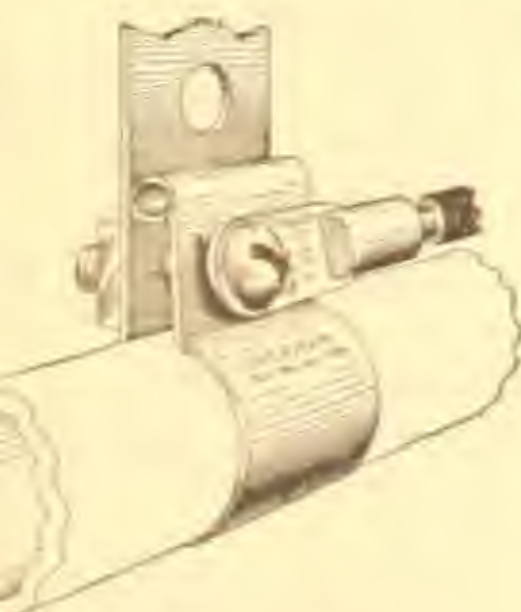
Blackburn Clamp  
Type A-1



Blackburn Clamp  
Types 3 and 4



Shawmut Clamp



Sherman Ground Clamp



P. & S. Conduit Clamp



## CONDUIT FITTINGS



Jiffy Clip



THE PENNY IN PLACE

THE PENNY  
Steel Conduit Penny

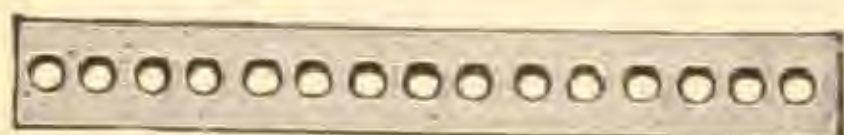
Steel Fish Tape



Pipe Hook



Pipe Strap



Suspension Bar



Steel Ring with Bolt



Lag Screw and Bolt

## JIFFY CLIPS

A low-priced but substantial clamp for hanging pipe, conduit, and lead covered cables. Only one screw or bolt is required to hold the pipe or cable and clip firmly in place. Standard finish, galvanized.

Trade No.	Conduit Size, In.	Size Inches	Std. Pkg.	Wt. Lbs.	Price per 100
91735	1/8	406	500	7 1/2	\$1.00
91736	1/4	516	500	10	1.10
56915	3/8	675	100	3	1.30
56916	1/2	840	100	4	1.40
56917	3/4	1 050	100	4 1/2	2.00
56918	1	1 315	100	8 1/2	3.00
91737	1 1/4	1 688	100	11 1/2	4.00

## STEEL CONDUIT PENNIES

Slip them inside the bushing and when the job is done, unscrew the bushing and the penny drops out, but they do not drop out or get knocked out until you want them to. The best way to keep plaster, cement, nails, dirt, etc., out of conduit system while job is in construction.

Trade No.	For Size Conduit Inches	Unit Pkg.	Price per 1000	Trade No.	For Size Conduit Inches	Unit Pkg.	Price per 1000
55045	1/2	100	\$4.00	55065	1 1/2	50	\$16.00
55046	3/4	100	6.00	55066	2	50	20.00
55047	1	100	8.00	55067	2 1/2		30.00
55048	1 1/4	50	12.00	55068	3		40.00

These tapes are regularly furnished in 50, 75, 100, 125, 150 and 200-foot lengths, but can be furnished in any desired length.

## TEMPERED STEEL FISH TAPES

Trade No.	Width Inches	Thickness Inches	Price, per 100 Feet
55049	1/8	.060	\$2.00
55050	3/16	.060	3.00
55051	1/4	.060	4.00

## WROUGHT IRON PIPE HOOKS

Trade No.	Size Inches	Price per 100	Trade No.	Size Inches	Price per 100
07845	1/4	\$0.30	07849	1	\$0.65
07846	3/8	.35	07850	1 1/4	.85
07847	1/2	.40	07851	1 1/2	1.00
07848	3/4	.50	07852	2	1.10

## TINNED PIPE STRAPS

Trade No.	Size Approx. Inches	No. per Lb.	Price per Lb.	Trade No.	Size Approx. Inches	No. per Lb.	Price per Lb.
07854	3/8	30	\$0.18	07859	1 1/2	10	\$0.18
07855	1/2	25	.18	07860	2	8	.18
07856	3/4	20	.18	07861	2 1/2	6	.18
07857	1	18	.18	07862	3	5	.18
07858	1 1/4	16	.18				

## STEEL SUSPENSION BARS

Bars are made in 10-foot lengths. Made of first quality soft steel and can be easily cut with cold chisel.

Trade No.	Mfrs. No.	For Size Pipe, In.	Price per Ft.	Trade No.	Mfrs. No.	For Size Pipe, In.	Price per Ft.
55052	1	1 1/2 to 1 1/2	\$0.08	55072	3	3 1/2 to 6	\$0.10
55053	2	2 to 3	.09	55073	4	7 to 8	.20

## STEEL RINGS WITH BOLTS

Trade No.	For Size Pipe, In.	Price Each	Trade No.	For Size Pipe, In.	Price Each
55054	1/2	\$0.14	55074	2	\$0.22
55055	3/4	.14	55075	2 1/2	.24
55056	1	.16	55076	3	.26
55057	1 1/4	.18	55077	3 1/2	.30
55058	1 1/2	.20	55078	4	.32

## LAG SCREWS AND BOLTS

Trade No.	For Size Pipe, In.	Price Each	Trade No.	For Size Pipe, In.	Price Each
55059	1 1/2 to 1 1/2	.10	55079	3 1/2 to 8	.14
55060	2 to 3	.12			



# OUTLET BOXES AND COVERS

## 4-INCH SQUARE BOXES

Trade No.	Union	Bossert	Pratt Chuck	Sprague	Mfrs. No.		Appleton	Std. Pkg.	Wt., lbs. per 100	Price per 100
					T. & B.	Steel City				
020306	101	1900	A	6200	51151	A1½	4SC	100	85	\$30.00

1⅝ inches deep, for ½ or ¾-inch conduit. Regularly furnished with two outlets in each side, five in bottom. Two fixture holes tapped ⅜. Can also be made with three outlets in two opposite sides at the same price.

020310	102	15	BA	6200SE	52151	AX1½	4S	100	85½	30.00
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1⅝ inches deep, for ½ or ¾-inch conduit. Regularly furnished with two outlets in each side, five in bottom, fixture holes not tapped. Can also be furnished with three outlets in two opposite sides or three outlets in all four sides at same price.

## COVERS FOR 4-INCH SQUARE BOXES

020307	101A	22	B	6201	51C55	ACX	8476	200	37	20.00
020308	101B	23	C	6209	51C4	ABX	8475	200	52	20.00
020309	101J	22L	D	6206½	.....	.....	.....	200	36	20.00
49091	101JT	22L D&T	.....	6206	51C5	AKX	8477	200	30	22.00

Steel cover, raised open center, opening 2⅝ inches diameter, ¾ inch high.

Steel cover, closed, raised center, crown, ⅝ inch high.

Steel cover, raised open center, with lugs not tapped.

Steel cover, raised open center with lugs drilled and tapped, giving 2¾ and 2⅝-inch centers, screw holes tapped ⅜. This cover will take any standard cover for 3¼-inch box, providing a combination whereby receptacles can be accommodated in the 4-inch box which are made for the 3¼-inch cover and box.

020311	102A	35	BB	6207	52C48	AC	8460	200	34	14.00
020312	102B	35A	BC	6203	52C2	AB	8462	200	47¾	14.00
020313	102C	52	BI	6204	52C12	AD	8463	200	46	20.00

Steel cover, raised open center, crown ¾ inch high, opening 2⅝ inches diameter.

Steel cover, raised closed center, crown ⅝ inch high; used where box is required as a junction box; raised crown gives more space in box for splicing.

Steel cover, raised center ⅝ inch high, with ⅜-inch insulating bushing for use where drop cord is required.

49092	102CC	.....	.....	.....	.....	AF	8464-2	200	46	25.00
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Steel cover, raised center ⅝ inch high, with two ⅜-inch insulating bushings in same for use where drop cords are required. Similar to No. 102C.

49093	102CC	.....	.....	.....	.....	AFF	8464-3	200	46	30.00
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Steel cover, raised center ⅝ inch high, with three ⅜-inch insulating bushings in same, used where drop cords are required. Similar to No. 102C.

020314	102D	37	BF	6202	52C15	AE1¼	8466	100	46	20.00
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Steel cover, raised 1¼ inches high; takes all standard push button switches or rectangular base flush plug receptacles. This cover allows box to be set 1¼ inches back of plaster line. Mounting screw centers 3⅝ inches.

020315	102E	37A	BG	6210	52C14	AE¾	8468	200	38	20.00
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Steel cover, raised ¾ inch high; takes same switches and receptacles as No. 102D.

49090	102ES	.....	.....	.....	.....	AE¾	.....	200	31	20.00
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Steel cover, raised ¾ inch high; takes same switches and receptacles as No. 102D.

020316	102F	78	BK	6211	52C1	AA	8465	200	39	14.00
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Steel cover, flat. This cover can be punched to take any standard receptacle at 10 cents each net extra.

020317	102G	38	.....	6205	52C17	AG1¼	8469	100	50½	25.00
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Steel cover, raised 1¼ inches high, for 2 push button switches, mounting screw centers 3⅝ inches one way, 1⅝ inches the other.

020318	102GS	38A	BH	6205½	52C18	AG¾	8470	100	33	25.00
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Steel cover, raised ¾ inch high, for two push button switches. Screw centers same as 102G.



No. 101



No. 102



No. 101A



No. 101B



No. 101J



No. 101JT



No. 102A



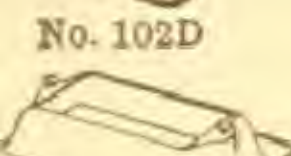
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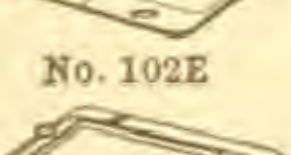
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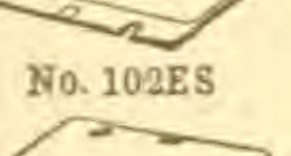
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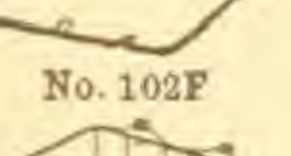
No. 102E



No. 102ES



No. 102F



No. 102G



No. 102GS



## OUTLET BOXES AND COVERS

## COVERS FOR 4-INCH SQUARE BOXES

Trade No.	MFRS. No.					Std. Pkg.	Wt., lbs. per 100	Price per 100
	Union	Bossett	Pratt Chuck	Sprague	T. & B.			
020319	102J	35L		6208½		8461	200	36 \$12.00
Steel cover, raised center ⅝ inch high with lugs drilled but not tapped.								
49094	102JT	{ 35L D&T }		6208	52C3	AK { 8461 D&T }	200	36 14.00

Steel cover, raised open center with lugs drilled and tapped, screws on 2⅝-inch and 2¾-inch center for wall and outlet box receptacles and Bryant No. 393. Screw holes tapped ⅜. This cover will take any standard 3¼-inch box cover providing a combination whereby receptacles can be accommodated in the 4-inch box.

49095	102K				AAH	8471	200	38 14.00
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Steel cover, flat 1½-inch hole in center for ring receptacles.

49096	102KR				52C35	AH	8472	200 45 16.00
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Steel cover, raised center ⅝-inch high with 1½-inch hole in center for ring receptacles.

49097	102L				AT	8473	200	38 14.00
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Steel cover, flat, with opening for Federal Receptacle; diameter of opening 1⅜ inches.

49098	102M				AGG	847A	4200	39 14.00
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Steel cover, flat, with ½-inch knock-out in center; can be furnished with two or more knock-outs, if desired.

49102	102MR				52C7	HHH	8474A	200 47 14.00
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Steel cover, raised center, with ½-inch knock-out in center.

## 4⅝-INCH SQUARE BOXES

020320	110	11B	MA	6225	72151	D1½	4SJ	50 107 40.00
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1⅝ inches deep; two outlets in each side, five in bottom, drilled for fixture stem, for ½ and ¾-inch conduit only.

020321	111	11B	deep NA	6225 deep	72171	D2⅝	1	50 118 50.00
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2¼ inches deep, two outlets in each side, five in bottom, drilled for fixture stem, for ½, ¾ and 1-inch conduits.

49100	140	1200	SA	6231 deep		DT1½		50 122 50.00
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2⅝ inches deep, two outlets in each side, four in bottom, for ½ and ¾-inch conduits; when ¾-inch pipe is used outlets in bottom are omitted.

49101	150	1200A	TA	6231 deep		DT2⅝		50 147 62.00
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2¼ inches deep, two outlets in each side, four in bottom for ½ and ¾-inch conduits; when ¾-inch pipe is used outlets in bottom are omitted.

Nos. 110A and 110D covers are used with Nos. 140 and 150 boxes.

## COVERS FOR 4⅝-INCH SQUARE BOXES

020322	110A	34	MC	6226	72C48	DC	8481	200 42 20.00
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Steel cover, raised open center, crown ¾ inch high, opening 2⅝ inches.

020323	110B	33	MB	6227	72C2	DB	8480	200 55 20.00
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Steel cover, closed raised center, crown ⅝ inch high.

020324	110C	77	MD	6229	72C12	DD		200 53 22.00
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Steel cover, raised center, crown ⅝ inch high, with one ⅜-inch bushing in center.

020325	110D	43	ND					200 50 20.00
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Steel cover, raised open center, ⅝ inch high, lapped edge fitting over box.

020326	110E	44	NE					200 64 20.00
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Steel cover, raised closed center, ⅝ inch high, lapped edge fitting over box.

020327	110F				72C1			200 53 18.00
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Steel cover, flat.

49103	110G	38B			72C18	DG¾	8486	200 44 30.00
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Steel cover, raised 1¼ inches high, for two push button switches.

49104	110H				72C14			200 46 22.00
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Steel cover, raised 1¼ inches high, for one push button switch.



# OUTLET BOXES AND COVERS

## 4-INCH OCTAGON BOXES



No. 103O

Trade No.	MFRS. No.						Steel City	Appleton	Std. Pkg.	Wt., Lbs. per 100	Price per 100
	Union	Bossert	Pratt Chuck	Sprague	T. & B.						
49011 103	Octagon	8BO	CAO	6350	54151	01½	40	100	70	\$25.00	
Octagon, 1⅝ inches deep, for ½ and ¾-inch conduit. Four outlets in side, 5 in bottom. Drilled for fixture stems, two holes tapped 10-24.											
020373 104	Round	8BD	DA			B2⅝	4RD	100	78	32.00	
49012 104	Octagon	8BDO	6350D	54171		O2⅝	4OD	100	78	32.00	
Octagon, 2¼ inches deep, for ½, ¾ and 1-inch conduit. Four outlets in side, 5 in bottom; no outlets in bottom when 1-inch knock-outs are supplied in sides. Drilled for fixture stems, not tapped.											

## COVERS FOR 4-INCH OCTAGON BOXES



No. 103A



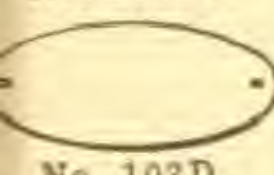
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Nos. 103C-103CB



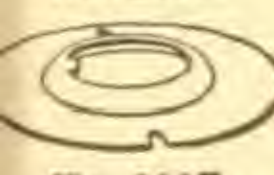
No. 103CC



No. 103D



No. 103E



No. 103F



No. 103H



No. 103J



No. 103JT



Nos. 103K-103KB



Nos. 103L-103M

Trade No.	MFRS. No.						Steel City	Appleton	Std. Pkg.	Wt., lbs. per 100	Price per 100
	Union	Bossert	Pratt Chuck	Sprague	T. & B.						
020374	103A	31	CB	6683	54C48	BC	8400	200	24½	14.00	
Steel, open raised cover; opening 2⅝ inches, crown ¾ inch high.											
020375	103B	40	CC	6386	54C2	BB	8401	200	36½	14.00	
Steel, closed raised cover, crown ⅜-inch high.											
020376	103C	41	CD	6387	54C12	BD	8402	200	36½	18.00	
Steel, closed raised cover, crown ⅝-inch high, with ⅜-inch insulating bushing in center for drop cord.											
49013	103CB		CK			BDC		200	36½	66.00	
Brass, closed raised cover, with outlet same as 103C, only made from brass.											
49014	103CC	42				BF	8412	200	36½	20.00	
Steel, raised cover, ⅝ inch high, with two ⅜-inch insulating bushings for use where drop cords are required from outlet.											
49015	103CCC						8412A	200	36½	25.00	
Steel, raised cover, ⅝-inch high, with three ⅜-inch insulating bushings for use where drop cords are required from outlet.											
020377	103D	76	CE	6376	54C1	BA	8403	200	29½	12.00	
Steel, flat cover. This cover can be drilled and tapped to take any standard receptacle at 10 cents each net.											
020378	103E	80	CF	6363	54C28	BJ	8404	200	24½	16.00	
Steel, flat cover, for 5 and 10-ampere snap switches and wall receptacles, which are attached to cover by machine screw and nut. Slots in cover give a range of centers from ⅛ to 1⅞ inches.											
020379	103F	62	CG			BTZ	8404	200	24	62.00	
Brass, raised cover, ⅜-inch high; polished; for Federal Receptacles Nos. 303 and 304; diameter of hole, 1¼ inches.											
020381	103H	62S	CI	6355		BT	8407	200	25	12.00	
Steel, raised cover, ⅜-inch high; for Federal Receptacles; diameter of hole, 1¼ inches.											
020383	103J	31L		6385½		BK	8409	200	23½	12.00	
Steel, raised cover, ⅝ inch high, with lugs drilled but not tapped.											
49022	103JT	31LD&T		6385	54C3	BK	8409D&T	200	23½	14.00	
Steel, raised cover, ⅝ inch high, with lugs drilled and tapped, giving 2⅝ and 2¾-inch centers for wall and outlet box receptacles and Bryant No. 393. Screw holes tapped ⅜. This cover will take any standard 3¼-inch box cover providing a combination whereby receptacles can be accommodated in the 4-inch box.											
020384	103K			6358		BCC	8410	200	23½	12.00	
Steel, flat cover, for shade holder receptacle; screw centers 2⅛ inches; hole 1¾ inches diameter; takes Arrow E and Bryant 59107, GE071 and GE072.											
49023	103KB							200	23½	62.00	
Brass, flat cover; same as 103K, only made from brass.											
020385	103L			6359	54C49	BDD	8411	200	24½	12.00	
Steel, flat cover, for Benjamin Receptacles Nos. 6, 6B, 6C, 6D, 6T; diameter of hole, 1½ inches.											
49018	103M			6378	54C6	BGG	8413	200	29½	12.00	
Steel, flat cover, with ½-inch knock-out in center.											

Ear centers are 3 1/2 inches, tapped 10-24. Nos. 103 and 105 Covers are interchangeable.











## OUTLET BOXES AND COVERS

Nos. 106N and  
106NS

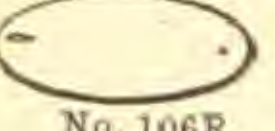
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No. 106P



No. 106Q



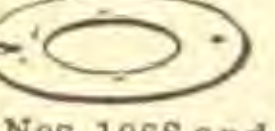
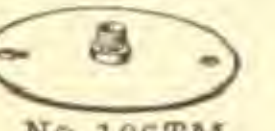
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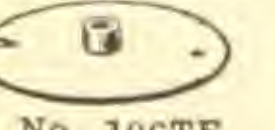
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No. 106RL

Nos. 106S and  
106SB

No. 106TM



No. 106TF



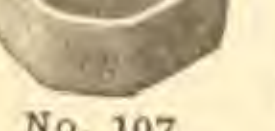
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No. 106UF

Nos. 106W and  
106WB

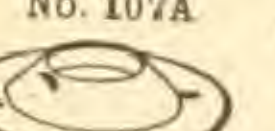
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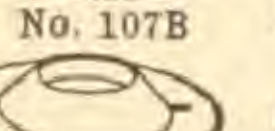
No. 107A



No. 107B



No. 107C



No. 107D

## COVERS FOR 3 1/4-INCH ROUND AND OCTAGON RECEPTACLE BOXES

Trade No.	Union	Bossert	Pratt Chuck	MFRS. No.	Sprague	T. & B.	Steel City	Appleton	Std. Wt., Lbs. Pkg. per 100	Price per 100
020354	106N	59	F0				CTWZ		200 24	\$54.00

Brass cover, raised center, 3/8 inch high, lapped, 1 1/4-inch opening for Federal receptacles.

020355	106NS	59S					CTW	8314	200 24	10.00
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Steel cover, raised center, 3/8 inch high, lapped, 1 1/4-inch opening for Federal receptacles.

020356	106O			6259	24C49	CDD	8318	200	16 1/2	10.00
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Steel cover, flat, 1 1/2-inch opening, screws on 1 3/4-inch centers for Benjamin receptacles Nos. 6, 6B, 6C, 6D and 6T.

020357	106P	51	FH	6257	24C35	CH	8311	200	19	10.00
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Steel cover, raised center, 1 1/2-inch opening, 3/8 inch high, for P & S Nos. 61577, 61578, 61988, 61877, 102703, 102704, 436, 427, 437, 439; G. E. Nos. GE267, GE269, GE118, GE153, GE001, GE079, GE060; Bryant Nos. 61988, 4035, 4036, 4023, 4003, 59108; Paiste Nos. 61988, 47566, 59439; Arrow E Nos. 427, 439, 4003, 59108, 61577, 61877 and 61988.

020358	106Q						CHZ	8312	200	20 1/2 50.00
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Brass cover, raised center, 1 1/2-inch opening, 3/8 inch high; takes same receptacles as 106P.

49371	106R			6276	24C1	CA	8301A	200	20	9.00
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Steel cover, flat, closed.

49372	106RK			6278	24C6	CGG	8320	200	20	10.00
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Steel cover, flat, with 1/2-inch knock-out in center.

49373	106RL				24C7	CHH	8321	200	23	10.00
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Steel cover, raised center, 3/8 inch high, with 1/2-inch knock-out in center.

49374	106S			6258			8318	200	15	10.00
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Steel cover, flat, 1 3/4-inch opening, screw holes tapped 3/8 on 2 1/8-inch centers; for Bryant and Arrow E No. 59107; G. E. Nos. GE071, GE072.

49375	106SB							200	15	50.00
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Brass cover, flat, 1 3/4-inch opening, screw holes tapped 3/8 on 2 1/8-inch centers; for Bryant and Arrow E No. 59107; G. E. Nos. GE071, GE072.

49376	106TM			6254	24C22	CM	8322	200	25	16.00
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Steel cover, flat, with 1/8-inch brass male nipple.

49377	106TF			6266	24C23	CN	8323	200	25	16.00
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Steel cover, flat, with 1/8-inch brass female nipple.

49378	106UM			6268	24C24	CO	8324	200	26	20.00
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Steel cover, flat, with 3/8-inch brass male nipple.

49379	106UF			6270	24C25	CP	8325	200	26	20.00
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Steel cover, flat, with 3/8-inch brass female nipple.

49381	106W							200	29 1/2	10.00
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Steel cover, flat, for outlet box receptacles P & S New No. 372; screw centers, 2 1/2 inches; hole, 1 1/8 inches.

49382	106WB							200	29 1/2	50.00
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Brass cover, flat, for outlet box receptacles P & S New No. 372; screw centers, 2 1/2 inches; hole, 1 1/8 inches.

## 3 1/4-INCH ROUND AND OCTAGON BOXES

49380	107 Octagon	170		6249			YR1 1/2		100	59 1/2 30.00
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1 5/8 inches deep, for 1 1/2-inch conduit. Four outlets in sides only; provided with bridge for G. E. and Bryant receptacles Nos. 50746 and 5050.

## COVERS FOR 3 1/4-INCH ROUND AND OCTAGON BOXES

020359	107A	49S	EE				CUW	8328	200	24	10.00
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Steel cover, lapped, cone-shaped, 1 1/4-inch opening.

020360	107B	48S	ED	6292			CU	8326	200	22	10.00
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Steel cover, flush, cone-shaped, 1 1/4-inch opening.

020361	107C	48	EB	6292PB			CUZ	8325	200	23	50.00
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Brass cover, flush, cone-shaped, 1 1/4-inch opening.

020362	107D	49	EC				CUWZ	8327	200	25	54.00
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Brass cover, lapped, cone-shaped, 1 1/4-inch opening.



# OUTLET BOXES AND COVERS

## SHALLOW CEILING CONDUIT BOXES AND PLATES

3 1/4, 4 and 5 1/2 Inches

Trade No.	Mfrs. No.					Std. Wt., Lbs. per 100	Price per 100
	Union	Bossert	Chuck	Sprague	T. & B.		
020332	108 Round	18	HA	6221	56122	B 3/4 4CD 200 46 1/2	\$16.00
4 inches in diameter; 3/4 inch deep; 5 knock-outs in bottom for 1/2 and 3/4-inch conduit only.							
020333	108L Round	18E		6222	56121	BU 3/4 4CL 200 48	18.00
4 inches in diameter, 3/4 inch deep, with lugs; 5 knock-outs in bottom for 1/2 and 3/4-inch conduit only.							
020334	109 Round	18A	IA	6220	56112	B 1/2 4C 200 40	15.00
4 inches in diameter, 1/2 inch deep; 5 knock-outs in bottom for 1/2 and 3/4-inch conduit only.							
020335	109L Round			6219	56111	BU 1/2 4CL 200 41 1/2	18.00
4 inches in diameter, 1/2 inch deep, with lugs; 5 knock-outs in bottom for 1/2 and 3/4-inch conduit only.							
020336	113					3C 200 37 1/2	14.00
3 1/4 inches in diameter, 3/4 inch deep; 3 knock-outs in bottom for 1/2-inch conduit only.							
020337	113L	17S	FM	6246		C 3/4 3CL 200 39	18.00
3 1/4 inches in diameter, 3/4 inch deep, with lugs; 3 knock-outs in bottom for 1/2-inch conduit only.							
020339	114			6377	66711	B 1/8 4P 200 29 1/2	12.00
4 inches in diameter, plate only; 5 knock-outs in bottom for 1/2 and 3/4-inch conduit only.							
020338	115	18L	KA	6223		P 3/4 5C 100 85	30.00
5 1/2 inches in diameter, 3/4 inch deep; 5 knock-outs in bottom for 1/2 and 3/4-inch conduit only.							

## SHALLOW CEILING BOXES AND PLATES FOR NON-METALLIC FLEXIBLE CONDUIT

Trade No.	Mfrs. No.	No. of Knock-outs in Bottom		Std. Pkg.	Wt., Lbs. per 100	Price per 100
		Lugs	Conduit			
49041	212	4		200	20	\$12.00
3 1/2-inch Plate						
49042	215	8		200	22 1/2	12.00
4-inch Plate						
49043	220	6	2	200	29 1/8	12.00
4-inch Plate						
49044	222	10		200	29 1/2	12.00
4-inch Box, 1/2-inch Deep, without Ears						
49045	225	6	2	200	40	15.00
4-inch Box, 1/2-inch Deep, without Ears						
49046	227	10		200	40	15.00
4-inch Box, 1/2-inch Deep, without Ears						
49047	228	6	2	200	41 1/2	18.00

No. 212 furnished with 8 knock-outs instead of 4 when specified.

Center holes in all the above boxes will pass 3/8-inch gas pipe cap.



## OUTLET BOXES AND COVERS

## 4-INCH ROUND BOXES

Trade No.	Union	Emmet	Pratt	Mess. No.	Steel City	Appleton	Std. Wt. Lbs.	Price per 100
020386	120	600	QA	6399	BT1½	4RN	100	88 \$40.00

1½ inches deep for ½ and ¾-inch conduit; four outlets in sides and four in bottom, except when ¾-inch conduit is used, when bottom outlets are omitted.

020387	130	600A	RA	6399	BT2½	4RND	100	50 52.00
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2¼ inches deep, for ½ and ¾-inch conduit; four outlets in sides and four in bottom, except when ¾-inch conduit is used, when bottom outlets are omitted.

No. 103A cover listed on a previous page is used with Nos. 120 and 130 boxes.



## 4-INCH BRACKET BOXES

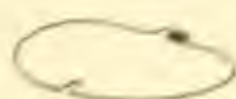
Trade No.	Mfr. No.	Description	Wt., Lbs. per 100	Price per 100
062640	112	3½-inch diameter, 2 inches deep; 4 outlets in bottom, one on round edge, two in flat side, drilled for fixture stems, for ½ and ¾-inch conduits.	63½	\$25.00

Box No. 112 is particularly suitable for bracket work where it is desirable to have one feed and two tap pipes.



## COVERS FOR 4-INCH BRACKET BOXES

062641	112A	Steel, open cover, flat, size of opening 1½ inches	18¼	12.00
062642	112B	Steel cover, closed, flat	24	12.00



## MIDGET RECEPTACLE BOXES

## For Hubbell and Bryant Flush Receptacles

Trade No.	Mfr. No.	Diameter Inches	Depth Inches	Wt., Lbs. per 100	Price Each
062643	200	2¼	2	39	\$0.28

These boxes have four knock-outs in sides, two in bottom; size of knock-outs, ½ inch diameter for ¼ and ⅜-inch flexible non-metallic conduit, or when specified, will be furnished with one ½-inch knock-out in bottom for connecting bushing for flexible metallic conduit.

Designed particularly for old work, and when above receptacles are used for new work, box No. 106 with special covers, listed on another page, is recommended.

No. 200 box has the ears normally set to take Hubbell receptacles and by reversing ears may be made to take Bryant's Jr. Floor Receptacle No. 1508 and Flush Receptacle, also Hubbell Receptacles Nos. 5506, 5507, 5508.

When specified, this box will be equipped with M ear, so that any ring receptacle under 2 inches diameter may be attached to a brass or ornamental cover.





## OUTLET BOXES AND COVERS

### 4-INCH EXTENSION RINGS FOR CONCRETE WORK

Originally designed as an extension to any 4-inch round box where it is desirable or necessary to have a deeper box and is also suitable for bracket work, in partitions where wall fixtures are located at similar points on either side of wall.

These rings may be extended indefinitely by building one on top of the other, will take all the standard covers which will enable the use of any ordinary conduit receptacle and switch.

The construction of this ring is similar to No. 105 Box with bottom taken out and lugs provided for fastening them to other outlet boxes. This ring is particularly convenient in connection with tile or concrete work, where extra deep boxes are necessary. Provided with four knock-outs in side for  $\frac{1}{2}$  or  $\frac{3}{4}$ -inch conduit and can be furnished enameled or sherardized.

No. 150X ring is used principally in re-enforced concrete construction, being arranged so that the standard covers or flat ceiling plates may be mounted on either side. It is similar to the No. 103X ring except that one side is provided with an additional pair of ears, tapped and fitted with screws. By this arrangement conduit may be run into the box after it is fastened to the form, by means of nails through the lower ears. After the bushings are put on the conduit, the top plate or cover is mounted as on an ordinary outlet box. If a future stud or receptacle is to be mounted in the box it may be assembled with the plate before the latter is attached to the ring.

When the No. 1050X ring is used the cover or plate protrudes beyond the edge of the ring, thus furnishing additional anchorage for the box.

The prices given below are for rings only and do not include cover or plate. For standard 4-inch covers and No. 114 flat plate.

Trade No.	Mfrs. No.	Style	Diam. Inches	Depth Inches	No. of $\frac{1}{2}$ or $\frac{3}{4}$ in. Knockouts	Price per 100
49026	103X	Round	4	1 $\frac{5}{8}$	4	\$25 00
49028	103OX	Octagon	4	1 $\frac{5}{8}$	4	25 00
49029	105X	Round	4	1 $\frac{5}{8}$	4	30 00
49030	105OX	Octagon	4	1 $\frac{5}{8}$	4	30 00
49031	105X Deep	Round	4	2 $\frac{1}{4}$	4	32 00
49032	105OX Deep	Octagon	4	2 $\frac{1}{4}$	4	32 00
49033	Extension plate for above rings					12 00

### OCTAGON BOXES FOR CONCRETE WORK

The No. 104OD box is a solid drawn box 3 $\frac{1}{2}$  inches deep and was designed for use in concrete work where the extension rings listed are not suitable. The conduit knock-outs are located near the bottom, thus giving ample clearance between conduit and finished surface. Takes all standard 4-inch covers and may be extended to a greater depth by using the 103OX ring. Made for  $\frac{1}{2}$  or  $\frac{3}{4}$ -inch conduit, in octagon form only.

Trade No.	Mfrs. No.	Description	Price per 100
49034	104OD	Octagon, 4-inch diameter, 3 $\frac{1}{2}$ inches deep; four $\frac{1}{2}$ or $\frac{3}{4}$ -inch knockouts in sides, one in bottom	\$60 00

### 4-INCH RINGS AND BACK PLATES FOR CONCRETE WORK

Stamped steel outlet boxes with removable back with specially designed ears through which nails may be driven into wood form to hold box securely in place. The conduit knockouts are located near the bottom, thus giving ample clearance between conduit and finished surface.

The Union way to install the box is to remove knockouts, take off back or bottom cover and nail box to form. The box is then ready for the conduit. After the conduit has been installed the back or cover is then put on and locked securely by tightening the two screws.

Trade No.	Mfrs. No.	Depth Inches	Diam. Inches	Supporting Screws Centered Inches	Price per 100
49035	202	2	4	3 $\frac{1}{2}$	\$30 00
49036	203	3	4	3 $\frac{1}{2}$	40 00
49037	203 $\frac{1}{2}$	3 $\frac{1}{2}$	4	3 $\frac{1}{2}$	45 00
49038	204	4	4	3 $\frac{1}{2}$	50 00
49039	205	5	4	3 $\frac{1}{2}$	60 00
49040	206	6	4	3 $\frac{1}{2}$	70 00

Any standard 4-inch round box cover will fit above boxes.



No. 103X Ring



No. 105X Ring with Plate and Cover



No. 104OD Box



Showing Box before Being Assembled



## T. &amp; B. CAST IRON BOXES



Round Weatherproof Box

## ROUND WEATHERPROOF BOXES

Trade No.	Mfrs. No.	Description	Wt. lbs. per 100	Price per 100
81061	170	Diam., 3½ inches; depth, 1¼ inches	135	35.00
81062	171	Diam., 3½ inches; depth, 1½ inches	129	45.00
81063	172	Diam., 3½ inches; depth, 3 inches	190	62.00
Covers for Round Weatherproof Boxes				
81067	173	Plain	40	14.00
81068	174	Plain, drilled and tapped, ⅜, ½ or ¾-inch	31	16.00

## SQUARE WEATHERPROOF BOXES

81064	180	3½x3½ inches; depth, 1¼ inches	130	35.00
81065	190	3½x3½ inches; depth, 1½ inches	190	45.00
81066	191	3½x3½ inches; depth, 2½ inches	350	60.00
Covers for Square Weatherproof Boxes				
81069	181	Plain	43	14.00
81070	182	Plain, drilled and tapped, ⅜ inch	36	16.00
81072	184	Plain, drilled and tapped, ½ or ¾ in.	78	16.00
81073	187	1 ⅝- <sup>1</sup> / <sub>8</sub> -inch plain hole in center	30	14.00
81075	188	Rotary switch cover	61	20.00
81077	189	Plug receptacle cover	60	24.00
109701	192	Flat switch cover	53	12.00
109702	193	Bracket outlet cover	33	12.00

Drilling and tapping charged extra.



Square Weatherproof Box

## CAST IRON JUNCTION AND PULL BOXES

## Flanged Boxes with Covers

Dimensions Inches	Trade No.	Price Each	Dimensions Inches	Trade No.	Price Each
4 x 4 x 3	067643	\$1.05	8x 8x 4	067651	\$3.40
6 x 5 x 2	067644	1.75	12x 6x 4	067652	4.00
8 x 4 x 3	067645	1.80	12x12x 4	067653	6.75
6 x 6 x 3	069006	1.90	8x 8x 6	067654	3.80
8 x 6 x 3	067646	2.50	12x 6x 6	067655	5.75
8 x 8 x 3	067647	2.80	12x12x 6	067656	8.50
12 x 6 x 3	067648	3.40	18x14x 6	067685	16.30
12 x12 x3	067649	5.65	10x10x 8	067686	8.00
6 x 6 x 4	069005	2.00	24x 9x 8	109703	17.00
8 x 6 x 4	067650	2.80			

## Unflanged Boxes with Covers

6 x 4 x1½	067688	.75	18x 6x 3½	067676	4.45
10¼x 2¾x1¾	067689	1.50	28x24x 3½	067677	23.00
3½x 3½x2	067691	.50	6x 6x 4	81080	1.65
4 x 4 x2	067692	.65	8x 6x 4	067678	2.30
6 x 3 x2	067693	.70	9x 6x 4	067679	3.20
6 x 4 x2	067694	.75	10x 6x 4	067680	3.25
10 x 5 x2½	067695	2.50	8x 8x 4	067681	3.10
4 x 4 x3	067696	.75	12x12x 4	067682	6.50
5 x 5 x3	067697	1.00	15x 7x 4½	067683	5.40
6 x 5 x3	067698	1.20	18x12x 5	067684	13.80
8 x 6 x3	067671	2.25	8x 6x 6	069001	3.50
7 x 5 x3	067672	1.65	12x 6x 6	069002	5.10
7 x 7 x3	067673	2.25	24x16x 8	069003	24.00
12 x 6 x3	067674	3.00	14x14x10	109704	18.00



Cast Iron Junction and Pull Box

Drilling and tapping charged extra.

All the above boxes and covers are furnished japanned, but can be galvanized at slightly increased cost, if desired.



# "UNION" SWITCH BOXES

## GEM SECTIONAL SWITCH BOXES

All Gem Sectional Switch Boxes are equipped with reversible and sliding ears which have an adjustment of  $\frac{1}{2}$  inch up to  $\frac{3}{4}$  inch, suitable for both old and new work.

### FOR NON-METALLIC FLEXIBLE CONDUIT

#### Types S, C and A Boxes

These square-cornered boxes are particularly adapted for new work on account of the maximum space that is available in the corners for wiring, bending, etc.

Length, 3 inches; width, 2 inches.

Knockouts,  $\frac{1}{2}$  inch, 2 in each side, 2 in each end and 4 in bottom.

Trade No.	Depth Type	Length	Description	Std. Price	Wt. per lb.	Box Price
80292	S	2	Box complete, without clamps	149	67	\$0.50
80293	S	2	Unit without sides	149	39	.40
80294	C	2 $\frac{1}{2}$	Box complete, without clamps	169	78	.50
80295	C	2 $\frac{1}{2}$	Unit without sides	169	55	.40
80296	A	3	Box complete, without clamps	50	88	.50
80297	A	3	Unit without sides	50	98	.40

#### Types D, F, FC and E Boxes

Gem bevel-cornered switch boxes are practical for use in re-wiring old buildings. The beveled corners permit installation of the box into the smallest practical opening in the wall, as well as facilitating the fitting of flexible tubing into the box.

Length, 3 inches; width, 2 inches.

Knockouts,  $\frac{1}{2}$  inch, 2 in each side and 2 in each beveled corner only.

80298	D	2	Box complete, without clamps	140	84	.50
80299	D	2	Unit without sides	140	37	.40
130500	F	2 $\frac{1}{2}$	Box complete, without clamps	149	69	.50
130501	F	2 $\frac{1}{2}$	Unit without sides	149	39	.40
130502	FC	2 $\frac{1}{2}$	Box complete, with No. 2 clamps	149	73	.60
130503	FC	2 $\frac{1}{2}$	Unit, with No. 2 clamps without sides	149	43	.50
80300	E	2 $\frac{1}{2}$	Box complete, without clamps	140	72	.50
80301	E	2 $\frac{1}{2}$	Unit without sides	140	42	.40

### FOR FLEXIBLE METALLIC CONDUIT

Type X and Y Switch Boxes take all makes of push buttons and rectangular base switches and receptacles. The knockouts provided are large enough to accommodate BX Nos. 10, 12 and 14 B. & S. twin conductors and BX3 Nos. 12 and 14 B. & S. triple conductors, also  $\frac{1}{2}$  inch and  $\frac{3}{4}$ -inch Greenfield Flexible Steel Conduit when ends are protected by brass bushing caps.

Length, 3 inches; width, 2 inches.

Knockouts,  $\frac{1}{2}$  inch, 2 in each side, 2 in each end and 4 in bottom.

#### Types X and Y Boxes

80304	X	2 $\frac{1}{2}$	Box complete with clamps	100	83	.50
80305	X	2 $\frac{1}{2}$	Unit without sides, with No. 2 clamps	100	47	.50
130504	Y	2	Box complete, with clamps	50	88	.60
130505	Y	2	Unit without sides, with No. 1 clamps	50	50	.50

Finishes—Above boxes are regularly finished with a heavy coat of black insulating enamel but can also be furnished galvanized at a slight advance in price.



Types S and C



Type D



Types D, FC and E



Type X



## T. &amp; B. CAST IRON BOXES



Round Weatherproof Box

## ROUND WEATHERPROOF BOXES

Trade No.	Mfrs. No.	Description	Wt. lbs. per 100	Price per 100
81061	170	Diam., 3½ inches; depth, 1¼ inches	135	35 00
81062	171	Diam., 3½ inches; depth, 1½ inches	129	45 00
81063	172	Diam., 3½ inches; depth, 3 inches	190	62 00
Covers for Round Weatherproof Boxes				
81067	173	Plain	40	14 00
81068	174	Plain, drilled and tapped, ⅜, ½ or ¾-inch	31	16 00

## SQUARE WEATHERPROOF BOXES

81064	180	3½x3½ inches; depth, 1¼ inches	130	35 00
81065	190	3½x3½ inches; depth, 1½ inches	190	45 00
81066	191	3½x3½ inches; depth, 2½ inches	350	60 00
Covers for Square Weatherproof Boxes				
81069	181	Plain	43	14 00
81070	182	Plain, drilled and tapped, ⅜ inch	36	16 00
81072	184	Plain, drilled and tapped, ½ or ¾ in.	78	16 00
81073	187	1⅝-inch plain hole in center	30	14 00
81075	188	Rotary switch cover	61	20 00
81077	189	Plug receptacle cover	60	24 00
109701	192	Flat switch cover	53	12 00
109702	193	Bracket outlet cover	33	12 00

Drilling and tapping charged extra.



Square Weatherproof Box

## CAST IRON JUNCTION AND PULL BOXES

## Flanged Boxes with Covers

Dimensions Inches	Trade No.	Price Each	Dimensions Inches	Trade No.	Price Each
4 x 4 x 3	067643	\$1.05	8x 8x 4	067651	\$3.40
6 x 5 x 2	067644	1.75	12x 6x 4	067652	4 00
8 x 4 x 3	067645	1.80	12x12x 4	067653	6 75
6 x 6 x 3	069006	1.90	8x 8x 6	067654	3 80
8 x 6 x 3	067646	2.50	12x 6x 6	067655	5 75
8 x 8 x 3	067647	2.80	12x12x 6	067656	8 50
12 x 6 x 3	067648	3.40	18x14x 6	067685	16 30
12 x12 x 3	067649	5 65	10x10x 8	067686	8 00
6 x 6 x 4	069005	2.00	24x 9x 8	109703	17 00
8 x 6 x 4	067650	2.80			

## Unflanged Boxes with Covers

6 x 4 x1½	067688	.75	18x 6x 3½	067676	4 45
10¼x 2¾x1¾	067689	1.50	28x24x 3½	067677	23 00
3½x 3½x2	067691	.50	6x 6x 4	81080	1 65
4 x 4 x2	067692	.65	8x 6x 4	067678	2 30
6 x 3 x2	067693	.70	9x 6x 4	067679	3 20
6 x 4 x2	067694	.75	10x 6x 4	067680	3 25
10 x 5 x2½	067695	2.50	8x 8x 4	067681	3 10
4 x 4 x3	067696	.75	12x12x 4	067682	6 50
5 x 5 x3	067697	1.00	15x 7x 4½	067683	5 40
6 x 5 x3	067698	1.20	18x12x 5	067684	13 80
8 x 6 x3	067671	2.25	8x 6x 6	069001	3 50
7 x 5 x3	067672	1.65	12x 6x 6	069002	5 10
7 x 7 x3	067673	2 25	24x16x 8	069003	24 00
12 x 6 x3	067674	3.00	14x14x10	109704	18 00



Cast Iron Junction and Pull Box

Drilling and tapping charged extra.

All the above boxes and covers are furnished japanned, but can be galvanized at slightly increased cost, if desired.



## "UNION" SWITCH BOXES

### GEM SECTIONAL SWITCH BOXES

All Gem Sectional Switch Boxes are equipped with reversible and sliding ears which have an adjustment of  $\frac{1}{32}$  inch up to  $\frac{3}{4}$  inch, suitable for both old and new work.

#### FOR NON-METALLIC FLEXIBLE CONDUIT

##### Types S, C and A Boxes

These square-cornered boxes are particularly adapted for new work on account of the maximum space that is available in the corners for wiring, bushing, etc.

Length, 3 inches; width, 2 inches.

Knockouts,  $\frac{5}{8}$  inch, 2 in each side, 2 in each end and 4 in bottom.

Trade No.	Type	Depth Inches	Description	Std. Pkg.	Wt., Lbs. per 100	Price Each
80292	S	2	Box complete, without clamps	100	67	\$0.50
80293	S	2	Unit without sides	100	39	.40
80294	C	2½	Box complete, without clamps	100	78	.50
80295	C	2½	Unit without sides	100	45	.40
80296	A	3	Box complete, without clamps	50	88	.50
80297	A	3	Unit, without sides	50	48	.40

##### Types D, F, FC and E Boxes

Gem bevel-cornered switch boxes are practical for use in re-wiring old buildings. The beveled corners permit installation of the box into the smallest practical opening in the wall, as well as facilitating the fishing of flexible tubing into the box.

Length, 3 inches; width, 2 inches.

Knockouts,  $\frac{5}{8}$  inch, 2 in each side and 2 in each beveled corner only.

80298	D	2	Box complete, without clamps	100	64	.50
80299	D	2	Unit, without sides	100	37	.40
130560	F	2¼	Box complete, without clamps	100	69	.50
130561	F	2¼	Unit without sides	100	39	.40
130582	FC	2¼	Box complete, with No. 2 clamps	100	73	.60
130583	FC	2¼	Unit, with No. 2 clamps, without sides	100	43	.50
80300	E	2½	Box complete, without clamps	100	73	.50
80301	E	2½	Unit without sides	100	42	.40

#### FOR FLEXIBLE METALLIC CONDUIT

Type X and Y Switch Boxes take all makes of push button and rectangular base switches and receptacles. The knockouts provided are large enough to accommodate BX Nos. 10, 12 and 14 B. & S. twin conductors and BX3 Nos. 12 and 14 B. & S. triple conductors, also  $\frac{5}{8}$  inch and  $\frac{3}{4}$ -inch Greenfield Flexible Steel Conduit when ends are protected by brass bushing caps.

Length, 3 inches; width, 2 inches.

Knockouts,  $\frac{3}{4}$  inch, 2 in each side, 2 in each end and 4 in bottom.

##### Types X and Y Boxes

80304	X	2½	Box complete with clamps	100	83	.60
80305	X	2½	Unit without sides, with No. 1 clamps	100	47	.50
130568	Y	3	Box complete, with clamps	50	48	.60
130569	Y	3	Unit, without sides, with No. 1 clamps	50	50	.50

**FINISHES**—Above boxes are regularly finished with a heavy coat of black insulating enamel but can also be furnished galvanized at a slight advance in price.



Types S and A



Type C



Types D, FC and E



Type X



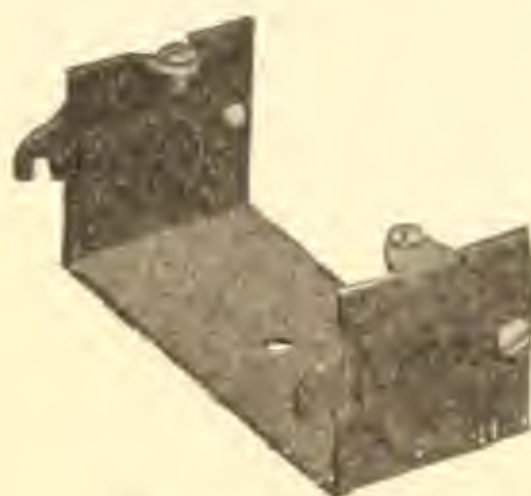
## "UNION" SWITCH BOXES

SECTIONAL SWITCH BOXES  
FOR LOOM OR RIGID CONDUIT  
Nos. 170 and 170A

No. 170, Single



No. 170, 2-gang



No. 170, Spacer



Type SS



Type DS-1

No. 170 box is 4 inches long, 2 inches wide and  $1\frac{3}{8}$  inches deep. The end outlets are for  $\frac{1}{2}$ -inch conduit, the two outlets in each side for loom or  $\frac{3}{8}$ -inch flexible conduit. Not provided with external supporting ears. Has one mounting hole in bottom. Particularly adapted for thin partition and outside wall work. No. 170A box is a single sectional box same as No. 170 but is provided with external ears for attaching to wall or plaster.

Trade No.	Mfrs. No.	Depth Inches	No. of Gangs	Ears	Std. Pkg.	Wt., Lbs. per 100	Price per 100
050827	170	$1\frac{3}{8}$	1	Without	100	75	\$0.20
050828	170	$1\frac{3}{8}$	2	Without	50	54	.38
050829	170	$1\frac{3}{8}$	Spacer	Without	100	40	.18
050830	170A	$1\frac{3}{8}$	1	With	100	77	.30
050831	170A	$1\frac{3}{8}$	2	With	50	55	.54

No. 170A box with ears not suitable for old work, because standard switch plates will not cover ears.

SOLID DRAWN SWITCH BOXES  
For Flexible Non-metallic Conduit

Designed for the contractor who prefers a solid unit box for single, two-gang and three-gang switch installation in old or new work. These boxes are drawn from 14 gauge steel, have rounded corners and are equipped with reversible and sliding ears. Single gang has two knockouts in each side and two in each beveled corner for loom. Can be furnished with  $\frac{1}{2}$ -inch conduit knockout in bottom, if specified. Two-gang, two knockouts in each side, four in each beveled corner for loom. Two knockouts provided in bottom for  $\frac{1}{2}$ -inch conduit. Three-gang has two knockouts in each side and six in each beveled corner for loom.

Trade No.	Type	DIMENSIONS, INCHES			No. of Gangs	Std. Pkg.	Wt., Lbs. per 100	Price Each
		Depth	Width	Length				
094435	SS	$2\frac{1}{2}$	2	3	1	100	64	\$0.30
094447	SS	$2\frac{1}{2}$	$3\frac{3}{4}$	3	2	50	54	.50
094448	SS	$2\frac{1}{2}$	$3\frac{1}{2}$	5	3	50	67	.70

DOOR SWITCH BOXES  
For Rigid or Flexible Conduit

Recommended by the Underwriters' Laboratories, Inc. Made of 14 gauge steel and are finished with a heavy coat of black insulating enamel but can be furnished galvanized, when desired, at a small advance in price.

TYPE DS No. 1.—For Perkins and Arrow E Door Switches. One  $\frac{5}{8}$ -inch knockout for flexible non-metallic conduit and  $\frac{1}{2}$ -inch knockout in bottom for rigid conduit. Screw centers  $3\frac{3}{4}$  inches.

TYPE DS No. 2.—Same as above, only with  $\frac{3}{4}$  knockouts and clamps.

TYPE DS No. 3.—For Diamond H Door Switches. One  $\frac{5}{8}$ -inch knockout for flexible non-metallic conduit and  $\frac{1}{2}$ -inch knockout for rigid conduit. Screw centers  $3\frac{1}{8}$  inches.

TYPE DS No. 4.—Same as above, only with  $\frac{3}{4}$  knockout and clamps.

TYPE DS No. 5.—For H & H Door Switches. One  $\frac{5}{8}$ -inch knockout for flexible conduit and  $\frac{1}{2}$ -inch knockout for rigid conduit. Screw centers  $3\frac{1}{2}$  inches.

TYPE DS No. 6.—Same as above, but with  $\frac{3}{4}$  inch knockout and clamps.

Trade No.	Type	Clamps	DIMENSIONS, INCHES			Std. Pkg.	Wt., Lbs. per 100	Price Each
			Length	Width	Depth			
57178	DS-1	Without	$3\frac{5}{8}$	$1\frac{3}{8}$	$2\frac{5}{8}$	100	75	\$0.50
57179	DS-2	With	$3\frac{5}{8}$	$1\frac{3}{8}$	$2\frac{5}{8}$	100	76	.65
57180	DS-3	Without	$3\frac{1}{4}$	$1\frac{3}{8}$	$2\frac{5}{8}$	100	68	.50
57181	DS-4	With	$3\frac{1}{4}$	$1\frac{3}{8}$	$2\frac{5}{8}$	100	69	.65
57182	DS-5	Without	3	$1\frac{3}{8}$	3	100	69	.50
57183	DS-6	With	3	$1\frac{3}{8}$	3	100	70	.65



## "UNION" SWITCH BOXES

### GEM SECTIONAL SWITCH BOXES

#### For Rigid Metallic Conduit

These switch boxes accommodate all standard makes of switches and receptacles and can be furnished with  $\frac{1}{2}$ -inch or  $\frac{3}{4}$ -inch conduit knockouts. May also be used for flexible tubing or larger than  $\frac{1}{2}$ -inch size if desired and for standard BX Conductors by using box connectors.

All boxes are 3 inches long and 2 inches wide.

Trade No.	Type	Depth In.	Description	Wt., Lbs. per 100	Price Each
206051	BS	2	Box, without clamps	67	\$0 50
206052	BS	2	Unit, without sides	39	40
206053	BM	2 $\frac{1}{2}$	Box, without clamps	78	50
206054	BM	2 $\frac{1}{2}$	Unit, without sides	45	40
80302	B	2 $\frac{3}{4}$	Box, without clamps	86	50
80303	B	2 $\frac{3}{4}$	Unit, without sides	47	40
130596	BD	3 $\frac{1}{2}$	Box, without clamps	52	50
130597	BD	3 $\frac{1}{2}$	Unit, without sides	29	40

#### For Rigid Conduit

Types H and HE are designed for installation in thin walls and partitions. Knockouts, one in each end for  $\frac{1}{2}$ -inch conduit. Two nails provided in bottom. Length 3 $\frac{3}{4}$  inches, width, two inches. Type R Knockouts, one in each end for  $\frac{1}{2}$ -inch conduit only. Ears are riveted to box and are non-adjustable. This box suitable for new work only. Length 3 $\frac{3}{4}$  inches, width, 2 inches.

206055	H	1 $\frac{3}{8}$	Box, without clamps or ears	70	40
206056	H	1 $\frac{3}{8}$	Unit, without sides, clamps or ears	38	30
206057	HE	1 $\frac{3}{8}$	Box, without clamps	72	50
206058	HE	1 $\frac{3}{8}$	Unit, without sides	40	40
206059	R	1 $\frac{5}{8}$	Box, without clamps	65	50
206060	R	1 $\frac{5}{8}$	Unit, without sides	33	40

Type HE Boxes have reversible and sliding ears.

Type R Boxes are have riveted ears, non-adjustable.

### SOLID STAMPED SWITCH BOXES

The Type SL Boxes are for installation in thin walls or partitions. Furnished with loom knockouts only.

The Type SC Boxes are of greater depth and are intended for conduit. The sides of both Types SL and SC Boxes are securely riveted on to afford maximum rigidity.

Trade No.	Type	No. of Gangs	Dimensions, Inches	Std. Pkg.	Wt., Lbs. Std Pkg.	Price Each
			Length Width Depth			

206061	SL	1	3 2 2	100	68	\$0 30
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Two knockouts in each end and two in each side for loom.

206062	SL	2	3 3 $\frac{3}{4}$ 2	50	76	50
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Four knockouts in each end and two in each side for loom.

206063	SC	1	3 2 2 $\frac{3}{4}$	100	70	40
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One knockout in each end and two in each side for  $\frac{1}{2}$ -inch conduit. Two knockouts can be provided in bottom for  $\frac{1}{2}$ -inch conduit, if desired.

206064	SC	2	3 3 $\frac{3}{4}$ 2 $\frac{3}{4}$	50	82	60
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Two knockouts in each end and two in each side for  $\frac{1}{2}$ -inch conduit. Four knockouts can be provided in bottom for  $\frac{1}{2}$ -inch conduit, if desired.

### TANDEM SWITCH BOXES

Will mount all standard push-button switches or receptacles and accommodate all standard plates.

Trade No.	Mfrs. No.	Depth In.	No. of Gangs	Price Each	Trade No.	Mfrs. No.	Depth In.	No. of Gangs	Price Each
206065	400	1 $\frac{7}{8}$	2	\$0 90	206071	409	2 $\frac{1}{2}$	3	\$1 50
206066	401	2	2	90	206072	410	2 $\frac{1}{2}$	3	1 50
206067	402	2 $\frac{1}{2}$	2	1 00	206073	414	1 $\frac{7}{8}$	4	2 00
206068	403	2 $\frac{1}{2}$	2	1 00	206074	415	2	4	2 00
206069	407	1 $\frac{7}{8}$	3	1 30	206075	416	2 $\frac{1}{2}$	4	2 30
206070	408	2	3	1 30	206076	417	2 $\frac{1}{2}$	4	2 30



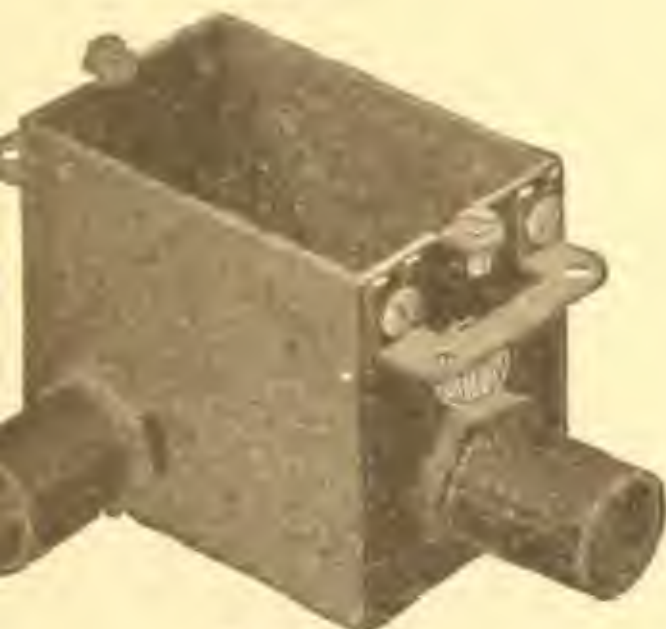
Type BS



Type B



Type R



Type SC



Tandem Box



**"UNION" SWITCH BOXES****SOLID ONE-PIECE BOXES**

Box No. 304



No. 326 Cover

These boxes are made of pressed steel. Covers have mounting centers that will accommodate all standard push button switches. The switch centers are  $3\frac{3}{4}$  inches and center lines are  $1\frac{3}{8}$  inches apart. Outside dimensions of box with cover mounted are  $4\frac{1}{4}$  inches wide and  $2\frac{7}{8}$  inches deep and without cover,  $4\frac{1}{8}$  inches wide and  $2\frac{1}{8}$  inches deep.

Trade No.	Mfrs. No.	No. of Gangs	1/2-IN. KNOCKOUTS		3/4-IN. KNOCKOUTS		Price per 100	Trade No.	Mfrs. No.	Price per 100
			Each Side	Each End	Each Side	Each End				
57189	302	2	4	2	3	2	\$60.00	57197	322	\$30.00
57190	303	3	5	2	4	2	90.00	130654	323	45.00
57191	304	4	6	2	5	2	120.00	130655	324	60.00
57192	305	5	6	2	6	2	160.00	130656	325	75.00
57193	306	6	8	2	6	2	310.00	130657	326	145.00
57194	307	7	10	2	8	2	470.00	130658	327	260.00
57195	308	8	12	2	10	2	500.00	130659	328	290.00
57196	309	9	12	2	10	2	550.00	130660	329	330.00
130640	310	10	14	2	12	2	600.00	130661	330	360.00

Covers listed above are provided with extra slotted screw holes, plugged, to fit next smaller size box.



No. 155

**SECTIONAL CONDUIT SWITCH BOXES****FOR RIGID CONDUIT****No. 155**

The No. 155 box is the only single switch box that provides ample room for making splices, taps or junctions. Both the top side cover-plates can be removed by loosening the screws, which permits easy access to the wires without disturbing or removing the switch.

The box is 4 inches long, 4 inches wide,  $2\frac{5}{8}$  inches deep. Two knockouts in each side, two in each end for  $\frac{1}{2}$ -inch or  $\frac{3}{4}$ -inch conduit. Screw centers  $3\frac{3}{4}$  inches.

Trade No.	Mfrs. No.	Depth Inches	No. of Gangs	Std. Pkg.	Wt., Lbs. per 100	Price Each
050833	155	$2\frac{5}{8}$	1	50	$73\frac{1}{2}$	\$0.31

**No. 160**

The hook eye construction permits rapid assembling when additional gangs are required. With the aid of spacers, this box can be built up to any size for accommodating additional switches. Four inches long,  $1\frac{3}{8}$  inches wide. Four knockouts in each side, two in each end, for  $\frac{1}{2}$  or  $\frac{3}{4}$ -inch rigid conduit. Screw centers  $3\frac{3}{4}$  inches.

Trade No.	Mfrs. No.	Depth Inches	No. of Gangs	Std. Pkg.	Wt., Lbs. per 100	Price Each
050834	160	$2\frac{5}{8}$	2	25	51	60
050835	160S	$2\frac{5}{8}$	Spacer	100	49	26

A three-gang box is built up with the No. 160 box and spacer.

These boxes can also be used as junction boxes when equipped with flat covers and will meet the requirements of the Underwriters.

All the above boxes are provided with mounting holes in bottom.

**FINISHES.**—These boxes can be supplied with black enamel or galvanized finish but when same is not specified, black enamel will be furnished.



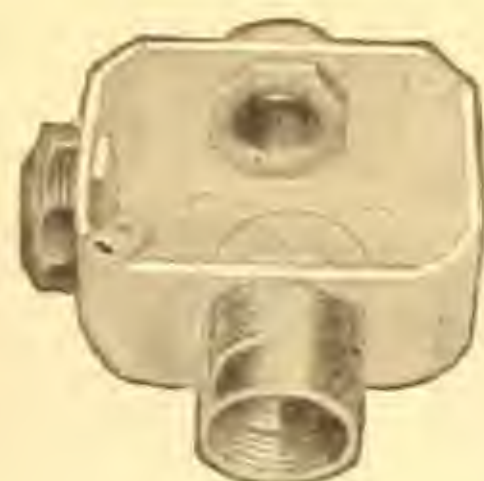
No. 160



No. 160, Spacer



## T & B CONDUIT BODIES



No. 14241

On this page are shown three views of the three conduit bodies constituting the T & B body line. These views are the combinations of three drawn steel bodies with some of the knockouts removed showing the special  $\frac{1}{2}$ -inch and  $\frac{3}{4}$ -inch couplings inserted therein. When so combined a conduit body is formed.

All conduit knockouts in these bodies are of one size only, to accommodate the two couplings shown. By the use of these couplings a rigid connection of the body to either  $\frac{1}{2}$ -inch or  $\frac{3}{4}$ -inch conduit is secured. The knockouts are so spaced in the body, that as the nipple is brought into its place by tightening home the heavy coupling nut or sleeve, the corner of the coupling nipple bites into the radius of the corners of the body and thus prevents turning.

Each body has been equipped with two or four  $\frac{1}{4}$ -inch knockouts in the bottom. These are supplied to make the bodies as universal as possible.

### SHALLOW AND DEEP TYPES

**OUTLETS.**— One in each side and bottom.

For exposed wiring for  $\frac{1}{2}$ -inch conduit use coupling No. 1410; for  $\frac{3}{4}$ -inch conduit use coupling No. 1420.

For concealed wiring for  $\frac{1}{2}$ -inch conduit use coupling No. 1410; for  $\frac{3}{4}$ -inch conduit use coupling No. 1420 or  $\frac{3}{4}$ -inch locknut and bushing.

**FIXTURE STUDS.**— Four  $\frac{1}{4}$ -inch diameter knockout holes for standard fixture studs ( $1\frac{1}{2}$  inch centers) are furnished in this body. Two of these holes can be used for screw securance to independent support, when used in concealed wiring.

**FINISH.**— Electro galvanized only.

#### Shallow Type

Designed for all general classes of work; for junctions, taps, drop cord work, etc., for the reception of practically all types of wiring devices, except of the flush type of receptacles, plugs, etc.

Trade No.	Mfrs. No.	Inside Dimensions Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
191372	14241	$2\frac{7}{8} \times 2\frac{1}{4} \times 1\frac{3}{8}$	100	45	\$30.00

#### Deep Type

Designed for the reception of all standard makes of flush devices. These flush devices are mounted into this body in the same manner as is now standard practice in switch boxes, or wall cases.

191373	34461	$3\frac{1}{2} \times 2\frac{1}{4} \times 1\frac{7}{8}$	100	52	40.00
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### BRANCH TYPE

Designed primarily for junctions, taps, drop cord work, etc. The design does not readily accept a wiring device, except sockets, etc., that can be connected by means of nipples.

**OUTLETS.**— Three in each side and bottom; one in each end.

For exposed wiring for  $\frac{1}{2}$ -inch conduit use coupling No. 1410; for  $\frac{3}{4}$ -inch conduit use coupling No. 1420.

For concealed wiring for  $\frac{1}{2}$ -inch conduit use coupling No. 1420 for  $\frac{3}{4}$ -inch locknut and bushing. Two  $\frac{3}{4}$ -inch diameter securance-screw knockouts are furnished, thus affording an independent support in concealed wiring.

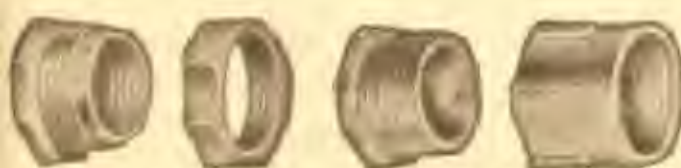
**FINISH.**— Electro-galvanized only.

191374	48241	$3\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{3}{8}$	100	50	23.00
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### COUPLINGS

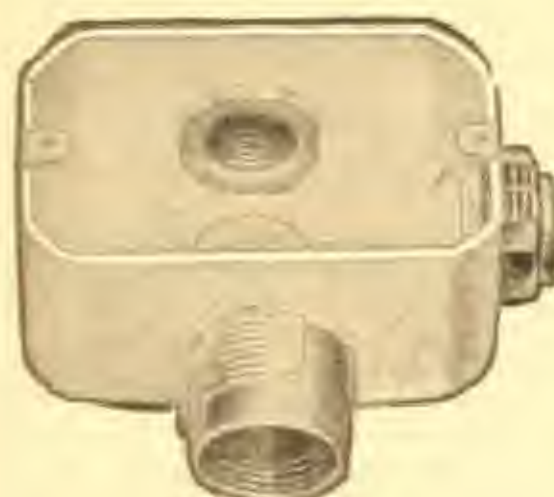
These couplings are so designed that, when assembled with the above bodies, they constitute a complete T and B Conduit Body.

Trade No.	Mfrs. No.	For Conduit Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
191375	1410	$\frac{1}{2}$	100	11	\$13.50
191376	1420	$\frac{3}{4}$	100	15	20.00



No. 1410

No. 1420



No. 34461



No. 48241



## T &amp; B CONDUIT BODY COVERS

## DEEP TYPE



No. 34R1



No. 34R2



No. 34R3



No. 34R4



No. 34R5



No. 34R6



No. 34R7



No. 34R8

Trade No.	Mfrs. No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
191422	34R1	Blank . . . . .	10	100	17	\$12.00
191423	34R2	For single push button switches . . . . .	10	100	17	12.00
191424	34R3	For double push button switches and 6-amp. polarity plugs . . . . .	10	100	17	12.00
191425	34R4	For rotary switches . . . . .	10	100	17	14.00
191426	34R5	For receptacles, without door . . . . .	10	100	16	12.00
191427	34R6	For receptacles, with door . . . . .	10	100	17	65.00
191428	34R7	For double plug receptacles . . . . .	10	100	15	20.00
191429	34R8	For Hubbell double plug receptacle . . . . .	10	100	13	20.00



No. 34R9



No. 34R11



No. 34R12



No. 34R13



No. 34R14



No. 34R15



No. 34R16

191496	34R9	For Chapman type receptacles with doors . . . . .	10	100	17	75.00
191497	34R11	For Hubbell 6-amp. polarized plug receptacle . . . . .	10	100	17	14.00
191498	34R12	For Hubbell 20-amp polarized plug receptacle . . . . .	10	100	16	14.00
191499	34R13	For G. E. 20-amp. polarized plug receptacle . . . . .	10	100	16	14.00
191500	34R14	For tumbler switch (G. E.) . . . . .	10	100	17	20.00
191501	34R15	For tumbler switch (H. & H.) . . . . .	10	100	17	16.00
191502	34R16	For tumbler switch (Hubbell) . . . . .	10	100	17	16.00



# T & B CONDUIT BODY COVERS

## BRANCH TYPE



No. 48C1



No. 48C6



No. 48C8



No. 48C11



No. 48C22



No. 48C23



No. 48C24



No. 48C25

Trade No.	Mfrs. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
91440	48C1	Flat closed.....	15	\$9.00
91441	48C6	Flat with 1/2-inch knockout.....	15	9.00
91442	48C8	Flat, pendant type, 1/8-in. eyelet bushing.....	16	10.00
91443	48C11	Flat, pendant type, 3/8-in. eyelet bushing.....	16	14.00
91444	48C22	Flat, with 1/8-inch male nipple.....	17	25.00
91445	48C23	Flat, with 1/8-inch female nipple.....	20	25.00
91446	48C24	Flat, with 3/8-inch male nipple.....	20	35.00
91447	48C25	Flat, with 3/8-inch female nipple.....	20	35.00



No. 48C75



No. 48C76



No. 48C77



No. 48C78



No. 48C82



No. 48C83



No. 48C84



No. 48C85

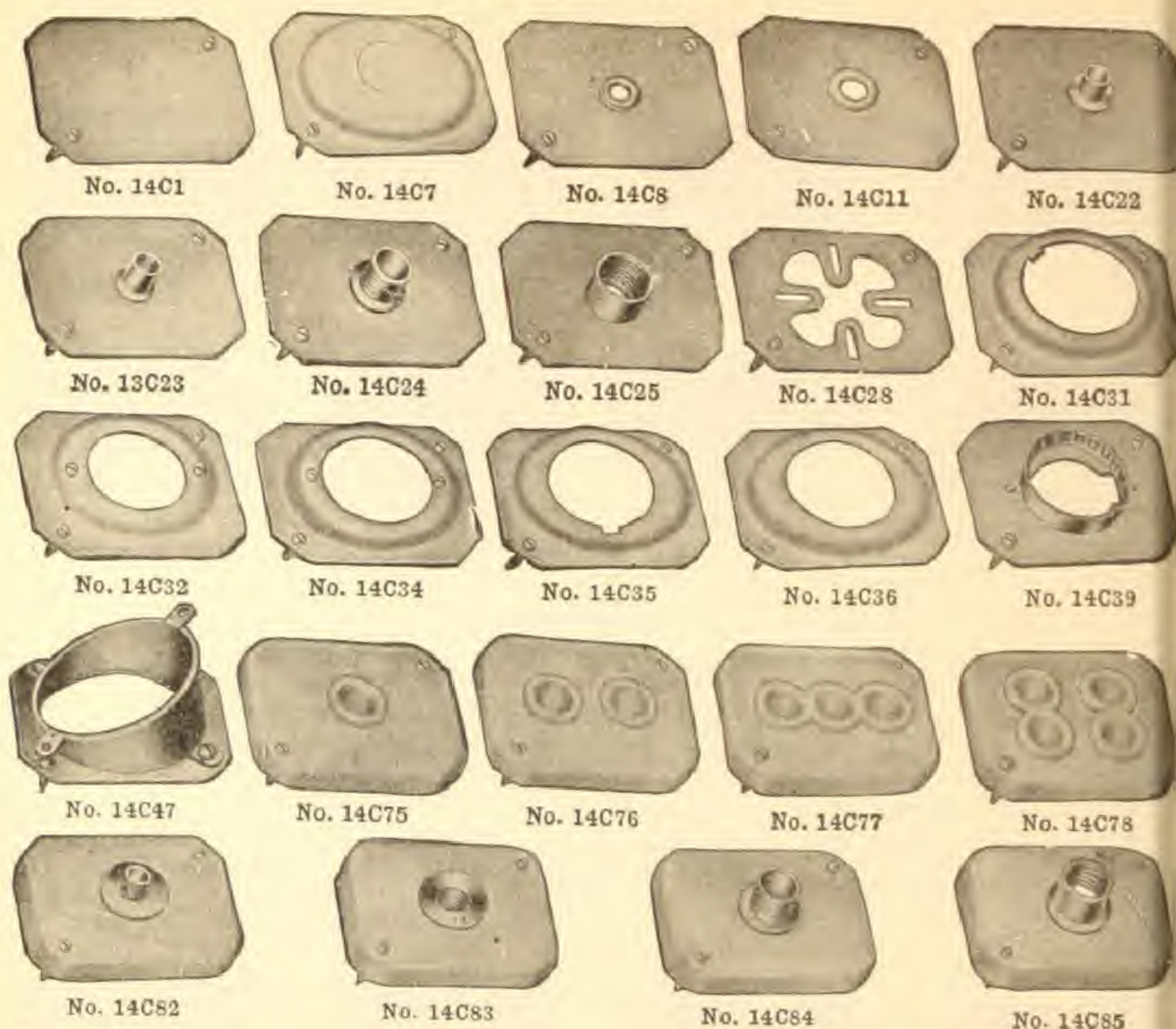
91503	48C75	Porcelain, with one wire-hole.....	24	12.00
91504	48C76	Porcelain, with two wire-holes.....	24	12.00
91505	48C77	Porcelain, with three wire-holes.....	24	13.00
91506	48C78	Porcelain, with four-wire holes.....	24	13.00
91507	48C82	Porcelain, with 1/8-inch male nipple.....	30	25.00
91508	48C83	Porcelain, with 1/8-inch female nipple.....	28	25.00
91509	48C84	Porcelain, with 3/8-inch male nipple.....	28	35.00
91510	48C85	Porcelain, with 3/8-inch female nipple.....	30	35.00

Unit package 10; standard package 100. Cover unit packages may be combined to make standard packages.



## T &amp; B CONDUIT BODY COVERS

## SHALLOW TYPE



Trade No.	Mfrs. No.	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
191388	14C1	Flat closed.	10	100	20	\$ 9 00
191389	14C7	Raised, with 1/2 in. knockout.	10	100	20	9 00
191390	14C8	Flat, pendant type, 1/8-in. eyelet bushing.	10	100	17	10 00
191391	14C11	Flat, pendant type, 3/8-in. eyelet bushing.	10	100	17	14 00
191392	14C22	Flat with 1/8-in. male nipple.	10	100	20	25 00
191393	14C23	Flat with 1/8-in. female nipple.	10	100	20	25 00
191394	14C24	Flat, with 3/8-in. male nipple.	10	100	24	25 00
191395	14C25	Flat with 3/8-in. female nipple.	10	100	26	25 00
191396	14C28	Flat, for all surface-mounted type devices, with screw centers from 7/8 to 1 1/2-in.	10	100	13	12 00
191397	14C31	Raised, for Federal Sign Recept. intruding tongue.	10	100	16	10 00
191398	14C32	Raised for Benjamin Sign Receptacle, two-screw.	10	100	17	10 00
191399	14C34	Raised for Standard Ames Sign Receptacle, two-screw.	10	100	17	10 00
191400	14C35	Raised, for sign receptacles, screw ring type, 1 1/2-in. diam. opening, grooved for single protruding lug on porcelain.	10	100	17	10 00
191401	14C36	Raised for sign receptacles, screw ring type, 1 1/2 in. opening, bent under tongue for five notched porcelain.	10	100	17	10 00
191402	14C39	Flat, for all standard fluted catch devices.	10	100	18	30 00
191403	14C47	Raised angle adapter, for reception of any of above covers.	10	100	25	22 00
191404	14C75	Porcelain with one wire-hole.	10	100	20	12 00
191405	14C76	Porcelain with two wire-holes.	10	100	20	12 00
191406	14C77	Porcelain with three wire-holes.	10	100	20	13 00
191407	14C78	Porcelain with four wire-holes.	10	100	20	13 00
191408	14C82	Porcelain with 1/8-in. male nipple.	10	100	34	25 00
191409	14C83	Porcelain with 1/8-in. female nipple.	10	100	32	25 00
191410	14C84	Porcelain with 3/8-in. male nipple.	10	100	32	35 00
191411	14C85	Porcelain with 3/8-in. female nipple.	10	100	32	35 00



## FIELDING RECEPTACLES AND PLUGS

50 Amperes 250 Volts

NATIONAL CODE STANDARD



No. 1505  
Fielding Floor Receptacle and Plug



No. 1500T  
Fielding Side-wall Receptacle and Plug

Fielding receptacles and plugs are designed for installations where high ampere-capacity requirements exist, and where ultimate economy and freedom from maintenance or repairs is desired.

They are made in two types, viz. 1505 for setting flush in the floor, such as for theatre stage work, and other purposes; Nos. 1500T and 1500B for installation on switchboards, or mounting on a side-wall or vertical partition.

Fielding receptacles and plugs are unique in design, being made of dry mica discs, without lac or other similar compound, threaded on to a steel mandrel, placed under heavy pressure and then turned down with a diamond tool; polarity cannot be reversed, yet by parallel-band construction, a round and quickly-entered plug is retained; though rated at 50 amperes, they will carry 200 amperes without heating, and are waterproof, fireproof, and absolutely indestructible.

In the 1505 type for installation on a theatre stage or flush with the floor, the aluminum handle has bronze locking-collar, firmly gripping by a soft-rubber gasket the insulation of cable, without the necessity of a knot being tied. This method of gripping the cable positively guards against any strain whatever being placed upon the terminal connections when plug is withdrawn from the receptacle by pulling on the cable. Side-wall type is particularly adapted for storage battery charging-panels, also for garage switchboards of up-to-date design, for which they have been accepted as standard for many years by large corporations.

### FLUSH FLOOR TYPE

Order No.	Mfrs. No.	Description	Size Plate Inches	Depth Inches	Price Each
459	1505	Floor receptacle or stage pocket and plug, complete	9x9	8 1/4	\$30.00
462	1505P	Plug only with handle and locking collar		7 1/2	15.00
463	1505R	Floor receptacle or stage pocket only	9x9	8 1/4	15.00

### WALL TYPE

Order No.	Mfrs. No.	Description	Conduit Enters from	DIMENSIONS, INCHES			Price Each
				Length	Width	Depth	
464	1500T	Side-wall receptacle complete	Top	6 3/4	6 3/4	5 1/2	\$25.00
465	1500B	Side-wall receptacle complete	Bottom	6 3/4	6 3/4	5 1/2	25.00
466	1500TR	Side-wall receptacle complete	Top	6 3/4	6 3/4	5 1/2	12.50
467	1500BR	Side-wall receptacle complete	Bottom	6 3/4	6 3/4	5 1/2	12.50
468	1500P	Plug only, aluminum handle		9 1/2	2 1/2		12.50



## PATTERSON NON-ADJUSTABLE FLOOR OUTLET BOXES

LICENSED UNDER FOUNTAIN CORP. PATENTS  
NATIONAL ELECTRICAL CODE STANDARD



No. 3000  
with 10-ampere, 250-volt  
Receptacle and Plug



No. 3000B  
with Blank Bronze Plate



No. 3000BN  
with Double Outlet Nozzle

Patterson Non-adjustable Floor Outlet Boxes listed below are designed for wood floor work and for work where it is unnecessary to have the plates of the boxes adjustable.

Patterson Floor Boxes shown on this page are double gasketed throughout, thoroughly waterproof; all parts, except floor box itself, are heavy cast bronze; the box is galvanized iron.

In No. 3000 standard 10-ampere receptacles are provided with plugs. With other floor boxes on this page, receptacles and plugs cannot be used.

Iron floor boxes are regularly drilled and tapped for four 1½-inch conduit entrances, two in sides and two in bottom, adapting them to flexible or rigid conduit work without extra drilling. They will be furnished, when ordered, with any special arrangement of conduit entrances desired. Removable plugs are furnished closing all but one outlet.

Cardboard shims are furnished with each box and with these shims bronze plate can be easily brought flush with the floor without taking extreme care in cutting; the setting of a Patterson Floor Box is thus made quicker and easier than any floor box on the market.

Receptacles may be removed from box for easy wiring by simply loosening two screws.

Rubber gasket fits into undercut of bronze plate, so that it does not easily fall out.

Patterson Floor Outlet Boxes shown on this page may be set with an expansion bit guaranteeing rapid work.

## FLOOR BOXES WITH OUTLET NOZZLE AND FLUSH DISC

Furnished Complete with 10-ampere, 250-volt Receptacle and Plug

Trade No.	Mfrs. No.	Diag. Bronze Plate, In.	Depth Over All, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
021481	3000	3 11/16	3 3/8	25	95	\$4.00

## Parts for No. 3000 Boxes

51822	3001	Iron box only, with three iron plugs .....	85
51823	3002	Large cast brass flange for No. 3000 box .....	1 50
51824	3004	Cast brass outlet nozzle .....	1 25
51825	3005	Flush brass disc for flange .....	75
51826	3006	Large rubber gasket .....	20
51827	3007	Small rubber gasket .....	10
51828	3008	Porcelain receptacle and supporting strap .....	90

FLOOR BOXES WITH BLANK BRONZE PLATES

Receptacles and Plugs cannot be Used in These Boxes

021483	3000B	$3\frac{11}{16}$	$3\frac{3}{8}$	25	86	3.00
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### Parts for No. 3000B Boxes

51829	3009	Iron box only with three iron plugs .....	85
51830	3010	Large cast brass flange with $\frac{1}{2}$ -inch plug in center.	2.25

Other parts same as for No. 3000.

### FLOOR BOXES WITH DOUBLE OUTLET NOZZLES

Receptacles and Plugs cannot be Used in These Boxes

021485	3000BN	$3\frac{11}{16}$	$3\frac{3}{8}$	25	92	4.00
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### Parts for No. 3000BN Boxes

51831	3014	Iron box only with three iron plugs .....	85
51832	3015	Large cast brass flange for 3000BN box.....	2.25
51833	3017	Cast brass double outlet nozzle .....	1.50

Other parts same as for No. 3000



## PATTERSON ADJUSTABLE FLOOR BOXES

LICENSED UNDER FOUNTAIN CORP. PATENTS

NATIONAL ELECTRICAL CODE STANDARD



Nos. 4000 and 4003  
for Receptacle and Plug



No. 4000B  
Blank Bronze Plate



No. 4000BN  
Double Outlet Nozzle

Patterson Adjustable Floor Boxes, Nos. 4000, 4003, 4000B, and 4000BN are made for cement and granolithic type floor work.

In Patterson Adjustable Floor Boxes, the vertical up-and-down adjustment of 1 inch ample for any variation of floor level and side or off-level adjustment of  $\frac{5}{8}$  inch, makes possible the perfect flushing of plate with surface of floor. All boxes are universal, giving any combination of conduit entrances.

Every possible connection to lighting fixtures can be made without additional machine work, follows:

- (a) By portable cord through rubber bushed dome cap.
- (b) By  $\frac{5}{8}$ -inch brass tubing into dome cap when bushing is removed.
- (c) By  $\frac{1}{2}$ -inch conduit into flush disc when removable plug is taken out.

No. 4003 is furnished complete with three-wire, 10-ampere receptacles and plugs of non-reversing polarity type, filling a frequent requirement for installations where a telephone connection from floor outlet is wanted.

Patterson Adjustable Floor Boxes can be set in half the time of any competitive box on the market.

Nos. 4000 and 4000BN boxes are regularly furnished with a 10-ampere, 250-volt receptacle and brass covered plug.

No. 4003 box is regularly furnished with a 3-wire non-reversing polarity receptacle and brass covered plug.

No. 4000B box is not furnished with receptacle or plug but has steel template so same can be mounted in if ever required.

Universal steel templates furnished, permit mounting in boxes, without additional drilling or tapping, the following receptacles: Diamond H, Bryant, Chapman, Arrow E, Pringle, H & H, Krantz, Hubbell and Mesco; thus giving a range of from 10 to 25 amperes, 250 volts.

The plate has permanent outer bronze edge which can be cemented into floor and a removable inside plate, giving easy access to the box at all times without disturbing cemented edge of plate. Regularly tapped for four  $\frac{1}{2}$ -inch conduit entrances in sides, and one in bottom. When specially ordered, furnished with any arrangement of conduit entrances desired.

Trade No.	Mfrs. No.	Receptacle and Plug Equipment	Diam. of Bronze Plate Inches	Depth Over All Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
1508	4000	10-amp., 250-V.—2-wire	$5\frac{3}{8}$	$5\frac{1}{8}$ to $4\frac{1}{8}$	25	244	\$ 9.00
15388	4003	10-amp., 250-V.—3-wire	$5\frac{3}{8}$	$5\frac{1}{8}$ to $4\frac{1}{8}$	25	270	10.50
1509	4000B	No receptacle or plug	$5\frac{3}{8}$	$5\frac{1}{8}$ to $4\frac{1}{8}$	25	230	8.00
1510	4000BN	10-amp., 250-V.—2-wire	$5\frac{3}{8}$	$5\frac{1}{8}$ to $4\frac{1}{8}$	25	240	9.00

With wooden plug furnished with each box, lower sections when set in floor during roughing may be plugged up and kept clear of dirt; when cement or granolithic flooring is put down, it will harden around this circular wooden plug and as plug is exact size of bronze faceplate, clean circular hole will be ready for bronze surface plate to snugly fit in, when at time of finishing, wood plug is split out with chisel.



## FULLMAN FLOOR OUTLETS

PATENTED

NATIONAL ELECTRICAL CODE STANDARD



Sectional View of No. 442 Floor Outlet with No. 465 and No. 466 Nozzles. The left section shows permanent connection and the right section is fitted with Freeman Receptacle No. 4354 and Benjamin Plug No. 903

### GANG FLOOR OUTLETS

Fullman Gang Adjustable Floor Outlets are for supplying a variety of electric service from one point. They are neater in appearance and can be installed quicker than separate outlets placed near each other. Cover plates are interchangeable and are adapted for No. 465 or No. 466 nozzles, as desired. Brass edge frame extends around all the cover plates to protect marble or similar flooring. Each section of adjusting frame is provided with lugs for receptacles.

NOTE.—Cover plates of gang floor outlets are provided with  $\frac{1}{2}$ -inch or 2-inch flush brass plugs, as desired.

Mfrs. No.	No. of Gangs	SIZE OF COVER, INCHES	
		Width	Length
442	2	5 $\frac{1}{4}$	7
443	3	5 $\frac{1}{2}$	10
444	4	5 $\frac{3}{4}$	13
445	5	5 $\frac{1}{2}$	16
446	6	5 $\frac{1}{2}$	19

#### List Prices of Gang Outlets

With $\frac{1}{2}$ -inch flush brass plug in cover plate, per section.....	\$5.00
With 2-inch flush brass plug in cover plate, per section.....	5.50

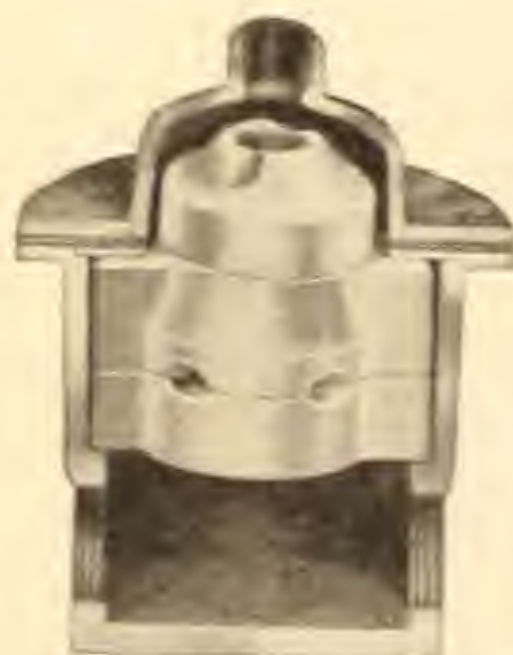


No. 477  
Floor Outlet

### BRASS COVER PLATES

Trade No.	Mfrs. No.	Description	Price Each
95926	458	Brass cover plate, with $\frac{1}{2}$ -inch flush brass plug for No. 465 nozzle or $\frac{1}{2}$ -inch conduit. For only one section of gang outlet.....	\$0.96
95927	459	Brass cover plate, with 2-inch flush brass plug for No. 466 nozzle. For only one section of gang outlet..	1.46

### NON-ADJUSTABLE FLOOR OUTLETS



Sectional View of No. 477 Outlet Showing Special Hubbell Receptacle which eliminates use of strap and screws

Trade No.	Mfrs. No.	Description	Price Each
023151	477	Complete floor outlet, 3 $\frac{1}{2}$ inches round, consisting of box body, porcelain plug and receptacle, flat steel ring, rubber gasket, brass cover plate, flush brass plug and bell nozzle.....	\$4.00
023152	478	Porcelain plug and receptacle only.....	1.00
023153	479	Brass bell nozzle only.....	1.00
023154	480	Brass flush plug only.....	.25
95932	490	Floor or wall junction outlet box consisting of box body, rubber gasket and brass cover plate with $\frac{1}{2}$ -inch flush plug.....	3.00



## FULLMAN FLOOR OUTLETS

Patented

NATIONAL ELECTRICAL CODE STANDARD

### ADJUSTABLE TYPES

Fullman Adjustable Water-tight Floor Outlets are the only make that provide for automatic universal adjustment of covers with low cost of installation and permanent protection from leaking or imperfect connection between box body and cover. These outlets provide for vertical, horizontal, rotary and angular tilting adjustment of covers. There are no known conditions of construction work that Fullman Floor Outlets have failed to fulfill. The "ring in the groove" feature is exclusive with Fullman Floor Outlets.

As shown in the illustration, the box body is out of level but cover aligns perfectly with finished floor.



Sectional View of No. 400 Outlet and No. 413 Brass Flange Ring



Sectional View of No. 401 Outlet and No. 466 Nozzle with Standard Receptacle Mounted on Lugs of Adjusting Ring



No. 421 Box and No. 466



No. 440 Brass Flange Ring



No. 465



No. 466

### SINGLE OUTLETS

With Round Cover Plates

The complete single outlet consists of box body, sealing cement for groove, iron adjusting ring, rubber gasket, brass cover plate with  $\frac{1}{2}$  or 2-inch flush brass plug. The 2-inch plug is necessary if receptacle or bell nozzle is used. Receptacles are not included in list prices of adjustable outlets.

The iron adjusting rings are furnished in  $1\frac{1}{4}$ -inch (standard),  $1\frac{7}{8}$ ,  $2\frac{1}{2}$  and  $3\frac{1}{8}$ -inch depths, thus providing a range of vertical adjustment of about  $2\frac{1}{2}$  inches. All rings are furnished with lugs for holding receptacles.

The box bodies are drilled and tapped (standard) with four  $\frac{1}{2}$ -inch conduit holes, three of which are closed with steel screw plugs.

When special drilling is required, a sketch should accompany the order.

Trade No.	Mfrs. No.	Diam. of Cover Plate Inches	Description	Price Each
035128	400	$4\frac{1}{4}$	Outlet complete, with $\frac{1}{2}$ -in. flush brass plug for No. 465 drip nozzle or $\frac{1}{2}$ -inch conduit. . . .	\$4.00
035129	401	$4\frac{1}{4}$	Outlet complete, with 2-in. flush brass plug for No. 466 bell nozzle . . . . .	4.50
035130	420	$4\frac{3}{4}$	Outlet complete, with $\frac{1}{2}$ -in. flush brass plug for No. 465 drip nozzle or $\frac{1}{2}$ -inch conduit. . . .	4.50
035131	421	$4\frac{3}{4}$	Outlet complete, with 2-in. flush brass plug for No. 466 bell nozzle . . . . .	5.00

Nozzles not included in above prices.

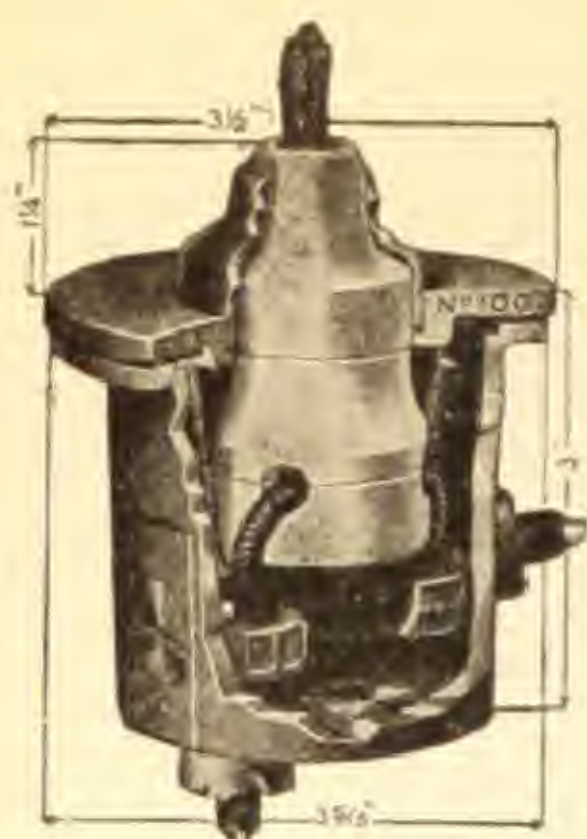
### ACCESSORIES

Brass flange rings and nozzles are not included in prices of complete adjustable outlets. Brass flange rings are for use in marble and similar fine floors to prevent chipping upon repeated removal of cover plate.

Trade No.	Mfrs. No.	Description	Price Each
023146	413	Brass flange ring, including rubber gasket, for Nos. 400 or 401 floor outlets. .	\$0.75
023147	440	Brass flange ring, including rubber gasket, for Nos. 420 or 421 floor outlets. .	1.00
023148	465	Drip nozzle, for Nos. 400 or 420 outlets, also for No. 458 cover plates for gang outlets . . . . .	1.00
023149	466	Bell nozzle, for Nos. 401 or 421 outlets, also for No. 459 cover plates for gang outlets . . . . .	1.00



## T. &amp; B. FLOOR BOXES



No. 100

## No. 100 FLOOR BOXES

Approved by National Board. Just the right size for private house work. Hot galvanized; no rubber bushings to break; no hard taps required for wiring; no screws to hold strap in place; absolutely watertight.

Trade No.	Mfrs. No.	Description	Price Each
135518	101	Iron box with three plugs.....	\$0.85
135519	102	Brass cover .....	1.50
135520	103	Brass disc for cover.....	.75
053793	104	Brass nozzle.....	1.25
053794	105	Receptacle and supporting strap..	.90
135531	106	Brass cover with 1/2-inch removable plug .....	2.25
135521	107	Large rubber gasket.....	.20
135522	108	Small rubber gasket.....	.10
053795	100	Box complete, as illustrated.....	4.00

Weight of complete box, 2 1/2 pounds.

## No. 1200 FLOOR BOXES

For telephone and electric light outlets. Hot galvanized. Absolutely watertight.



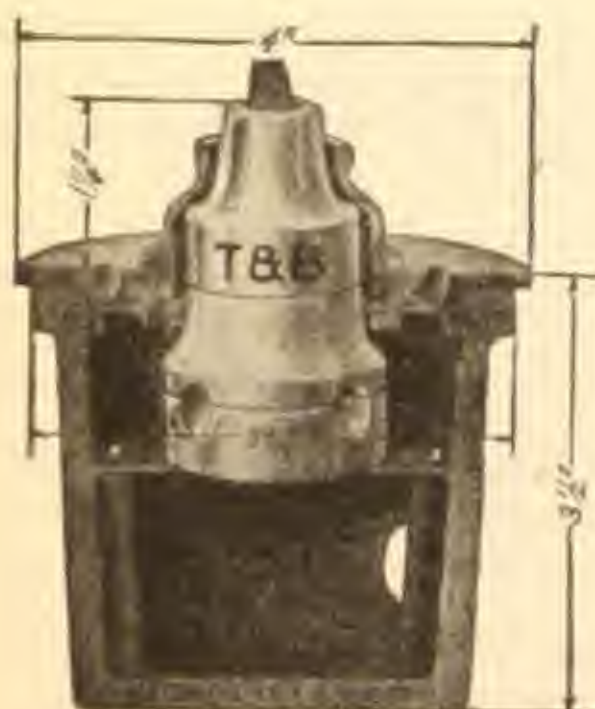
No. 1200

Trade No.	Mfrs. No.	Description	Price Each
135523	1201	Iron box with three plugs.....	\$0.85
135524	1202	Brass cover with 1/2-inch removable plug .....	2.25
135525	1200	Box complete, as illustrated.....	3.00

Weight of complete box, 1 3/4 pounds.

## No. 1100 WATERTIGHT FLOOR BOXES

Takes from 1/2-inch to 1-inch conduit with receptacle in place. Receptacle can be taken out without removing any screws. No hard taps required; no rubber bushings to break. Specify number, size and location of holes.



No. 1100

Trade No.	Mfrs. No.	Description	Price Each
135526	1101	Iron box.....	\$1.10
135527	1102	Brass cover .....	1.75
135528	1103	Brass disc for cover .....	.75
053787	1104	Brass nozzle.....	1.50
053788	1105	Receptacle and supporting strap..	.90
135529	1107	Large rubber gasket .....	.20
135530	1108	Small rubber gasket.....	.10
053790	1106	Brass cover with 1/2-inch removable plug .....	2.50
053789	1100	Box complete, as illustrated.....	5.00

Weight of complete box, 3 3/4 pounds.

The above are packed in a neat, strong box, clearly marked to show contents.



# CAMPBELL ATTACHMENT PLUGS AND RECEPTACLES



Plug Inserted in Type A Box with Round Cover



Plug Only



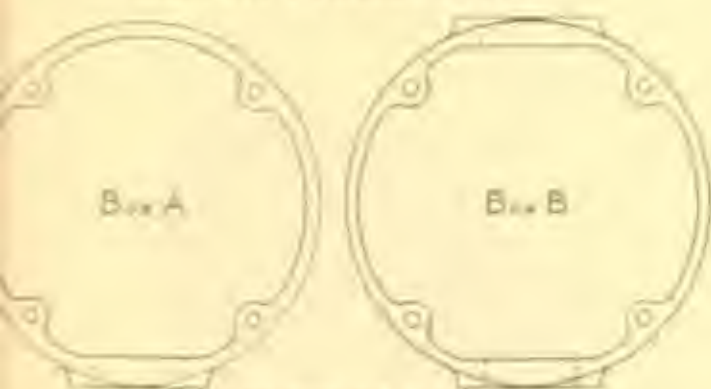
Receptacle Only



Square Hinged Cover



Double Pendant Box



Diagrams of Boxes



Diagrams of Covers

Campbell Attachment Plugs and Receptacles were originally designed for use in railroad repair shops and round houses, but they are also adaptable to conditions which require rugged construction to stand rough usage. The rated capacity is 25 amperes. All illustrations are a quarter actual size.

The plug is made of well seasoned hard wood, boiled in paraffine until thoroughly impregnated. Copper contacts are mounted on the body of the plug. Plugs are equipped with fuse clips for Midget cartridge fuses or fuseless plugs can be furnished, if specified.

The receptacle proper consists of a molded composition base on which are mounted strong phosphor bronze spring contacts.

The receptacle is usually furnished enclosed in a 3 1/2-inch round Type A or B cast iron box. The cover is fitted with a square hinged lid and fiber washer or guide plate. The cover is furnished round or square.

Types A and B cast iron boxes are adapted for use with Campbell Plugs and Receptacles. Conduit holes threaded unless otherwise specified.

Covers F, G, H, and J may be used on Types A and B boxes. Rubber gaskets furnished when required.

Single and double pendant boxes are designed for attachment to 1/2-inch conduit suspended from ceiling or roof. These boxes are fitted with fiber guide plates only, as the inverted position makes the usual cover unnecessary.

The four-way box is another adaptation for work bench lighting fixtures or standards.

The double pendant box is 5 inches in diameter. The fiber guide plate serves as a cover on account of the inverted position.

The single pendant box is similar in design to the double box but is only 3 1/2 inches in diameter.

Trade No.	Description	Price Each
143662	Plug only, fuseless or fusible . . . . .	\$2.00
143663	Receptacle only . . . . .	1.75
143664	Receptacle mounted in single Type A box with round hinged cover . . . . .	3.00
143665	Receptacle mounted in single Type B box with round hinged cover . . . . .	3.00
143666	Receptacle mounted in single Type A box with square hinged cover . . . . .	3.25
143667	Receptacle mounted in single Type B box with square hinged cover . . . . .	3.25
143668	Receptacle mounted in single pendant box with fiber guide plate . . . . .	3.00
143669	Two receptacles mounted in double pendant box with fiber guide plate . . . . .	8.25
143670	Four receptacles mounted in four-way box for bench lighting fixture . . . . .	14.00
143671	Type A box only, drilled and tapped for conduit . . . . .	.30
143672	Type B box only, drilled and tapped for conduit . . . . .	.30
143673	Type F cover . . . . .	.10
143674	Type G cover . . . . .	.20
143675	Type H cover . . . . .	.20
143676	Type J cover . . . . .	.20
143677	Single fiber cover . . . . .	.40
143678	Double fiber cover . . . . .	1.20
143679	Round hinged cover . . . . .	.40
143680	Square hinged cover . . . . .	.50
143681	Cable support for use with pendant boxes . . . . .	1.25
143682	Conduit loop for use with cable boxes . . . . .	.50
143683	Conduit hook for use with pendant boxes . . . . .	.50
143684	Rubber gasket for Types A and B boxes . . . . .	.10

Further details and blue prints furnished on request.



## CONDUIT AND CABLE

### TRIDUCT NON-METALLIC FLEXIBLE CONDUIT



Non-metallic Conduit

Triduct is a perfectly uniform, closely knitted single wall tube, non-collapsible, saturated and finished with a non-absorbent flame-proof compound. This tube has the unusual qualities of great wall strength and exceptional flexibility. This extreme flexibility is obtained in the method of construction which is not a weave nor a braid but a single wall of cotton yarn manufactured in a knitted loop construction. This means a series of circumferential loops in a continuous length, which, when bent to a small radius, elongate on the outer periphery while those on the inner contract without a particle of strain; there are no longitudinal threads to stretch nor horizontal threads to cut through.

Trade No.	Nominal Size In.	No. Ft. per Coil	Wt., Lbs. per 1000 Ft.	Price per Foot	Trade No.	Nominal Size In.	No. Ft. per Coil	Wt., Lbs. per 1000 Ft.	Price per Foot
202791	1/4	250	52	80.06	202794	5/8	200	95	\$0.15
202792	3/8	250	60	.09	202795	3/4	150	122	.18
202793	1/2	250	77	.12	202796	1	100	170	.25

### TRIANGLE CABLE AND CONDUIT

Triangle armored conductors and flexible steel conduits are produced with a single interlocking strip of cold rolled electro galvanized steel. Outside diameter does not vary more than 3/1000 inch in a million feet. Can be bent to a radius of 1 1/4 inches.

#### ARMORED CABLE

Twin Conductor				Three Conductor			
Trade No.	Size Wire No.	Approx. Ft. per Coil	Price per 1000 Ft.	Trade No.	Size Wire No.	Approx. Ft. per Coil	Price per 1000 Ft.
202797	14	100-250	\$104.00	202803	14	100-250	\$138.00
202798	12	100-250	135.00	202804	12	100-250	170.00
202799	10	100-250	185.00	202805	10	100-200	235.00
202800	8 Strd.	100-150	285.00	202806	8 Strd.	100-150	375.00
202801	6 Strd.	100	400.00	202807	6 Strd.	100	500.00
202802	4 Strd.	100	550.00	202808	4 Strd.	100	650.00

Twin Conductor—Lead Covered				Three Conductor—Lead Covered			
Trade No.	Size Wire No.	Approx. Ft. per Coil	Price per 1000 Ft.	Trade No.	Size Wire No.	Approx. Ft. per Coil	Price per 1000 Ft.
202809	14	100-200	164.00	202814	14	100-150	210.00
202810	12	100-200	225.00	202815	12	100-150	265.00
202811	10	100-150	275.00	202816	10	100-150	325.00
202812	8 Strd.	100-150	420.00	202817	8 Strd.	100-150	500.00
202813	6 Strd.	100	560.00				

#### FLEXIBLE STEEL CONDUIT

Trade No.	Nominal Inside Diam., In.	Approx. Ft. per Coil	Price per 100 Ft.	Trade No.	Nominal Inside Diam., In.	Approx. Ft. per Coil	Price per 100 Ft.
202818	3/8	250	\$5.00	202821	3/4	50	\$13.00
202819	3/8	250	7.50	202822	1	50	23.00
202820	1/2	100	10.00	202823	1 1/4	50	28.00

#### STEEL ARMORED FLEXIBLE CORD

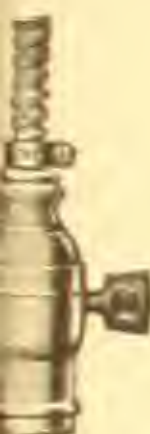
Plain				Reinforced			
Trade No.	Size No.	Approx. Ft. per Coil	Price per 1000 Ft.	Trade No.	Size No.	Approx. Ft. per Coil	Price per 1000 Ft.
202824	18	100-250	\$95.00	202827	18	100-250	\$135.00
202825	16	100-250	115.00	202828	16	100-250	155.00
202826	14	100-250	130.00	202829	14	100-250	200.00



## T. & B. CONNECTORS



Squeeze Connector



Connector  
Attached to  
Socket



Squeeze Connectors  
Nos. 265 to 270

### SQUEEZE CONNECTORS

For Armored Cord—Nos. 18 and 16 S. S.

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
53459	*250	$\frac{1}{4}$	100	4	\$7.50

For Re-enforced Armored Cord—Nos. 18 and 16 S. S. or D. S.

53461	*252	$\frac{5}{8}$	100	4	7.50
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For Armored Conductors

53454	253	$\frac{3}{8}$	100	9	7.50
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For Flexible Metallic Conduits

53458	254	$\frac{1}{2}$	100	13	9.00
53462	255	$\frac{3}{4}$	100	21	12.00
53463	256	1	50	25	18.00
53464	257	$1\frac{1}{4}$	50	40	25.00
53465	258	$1\frac{1}{2}$	50	65	35.00
53466	259	2	50	86	55.00

The  $\frac{1}{4}$  and  $\frac{5}{8}$ -inch sizes have  $\frac{3}{8}$ -inch (pipe size) threaded ends to fit standard sockets.

\*No locknuts are furnished with Nos. 250, 251 and 252.

$\frac{3}{8}$ -inch takes No. 14-2 and No. 14-3 wire and No. 12-2 wire S. S. or D. S. conductors.  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , and 2-inch take S. S. conduits only.

### 45° AND 90° SQUEEZE CONNECTORS

For Armored Conductors

Trade No.	Mfrs. No.	Size Inches	Degree	Std. Pkg.	Wt., Lbs. per 100	Price per 100
53467	265	$\frac{3}{8}$	45	100	12	\$12.00
53468	266	$\frac{3}{8}$	90	100	13	16.00

For Flexible Metallic Conduit

53469	267	$\frac{1}{2}$	45	100	16	15.00
53470	268	$\frac{1}{2}$	90	100	18	20.00
53471	269	$\frac{3}{4}$	45	50	22	25.00
53472	270	$\frac{3}{4}$	90	50	24	30.00

$\frac{3}{8}$ -inch takes No. 14-2 and No. 14-3 wire and No. 12-2 wire S. S. or D. S. conductors.

$\frac{1}{2}$ -inch takes  $\frac{1}{2}$ -inch S. S. or D. S. conduits.

$\frac{3}{4}$ -inch takes  $\frac{3}{4}$ -inch S. S. conduits only.

### INCLINED SET SCREW CONNECTORS

For Armored Conductors

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
53473	240	$\frac{3}{8}$	100	8	\$7.50

### SQUEEZE COMBINATION COUPLINGS

For connecting flexible and rigid metallic conduits, also for connecting flexible metallic conduit to outlet boxes by means of the T. & B. chase nipple. One-piece malleable iron galvanized. Cannot pull apart.

053078	230	$\frac{1}{2}$	100	19	12.50
053079	231	$\frac{3}{4}$	100	29	16.00
053080	232	1	50	35	21.00
053081	233	$1\frac{1}{4}$	50	43	30.00
096824	234	$1\frac{1}{2}$	50	75	40.00
096825	235	2	50	98	60.00

Nos. 234 and 235 are squeeze type.

$\frac{1}{2}$  and  $\frac{3}{4}$ -inch take S. S. or D. S. conduits.

1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$  and 2-inch take S. S. conduits.



Squeeze Combination Coupling



## WIREMOLD AND FITTINGS

## WIREMOLD

Wiremold is made in three-wire size only,  $\frac{3}{4}$ -inch wide and  $\frac{1}{4}$ -inch thick over all, is furnished in ten-foot lengths and is designed for surface wiring exclusively.

Wiremold base and capping is permanently assembled at the factory, hence conductors cannot be laid into it as in similar materials but must be fished in all cases.

Wiremold base is galvanized and its capping finished with special high-grade enamel of neutral tint particularly selected to blend with colorings of average walls and ceilings.

Wiremold and its accompanying fittings require no special tools of any kind for assembly.



No. 500



Fig. 1

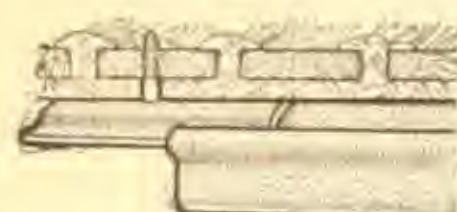


Fig. 2

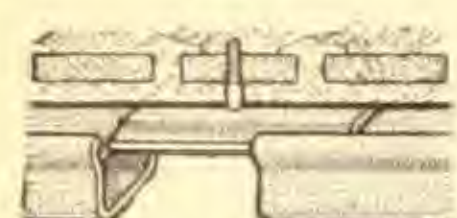


Fig. 3

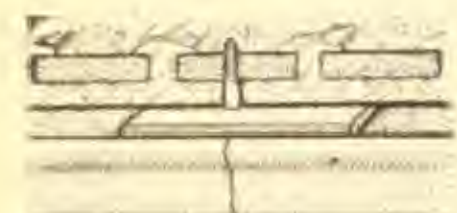


Fig. 4



Fig. 5



Fig. 6

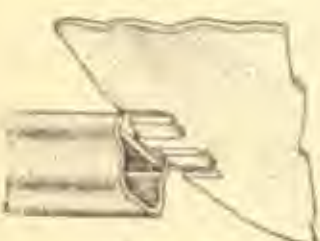


Fig. 7



Fig. 8



No. 501



No. 502

No. 503



No. 504



No. 509

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100 Ft.
137533	500	100 Ft.	1000 Ft.	300	\$12.00

Wiremold, like rigid conduit, is furnished with one coupling to each length, as shown in Fig. 1.

To install Wiremold push the coupling forward until screw hole is clear and then fasten to wall with a No. 8 flat head wood screw as shown in Fig. 2. Slip the next length over edges of coupling as shown in Fig. 3 and close up as in Fig. 4.

Base plates of all Wiremold fittings of cross, tee and elbow types are provided with ribbed tongues, as can be seen from the broken end view of such a base plate in Fig. 5.

In coupling Wiremold with fittings of this type the tongues are slipped into the grooved edges of the molding, as illustrated by Fig. 6, either before or after the fitting has been screwed to the wall.

Ribbed tongues are also cut in the base plates of all Wiremold fittings of the outlet box type, as can be seen from broken edge view of such a base plate in Fig. 7.

Wiremold is coupled to such plates by slipping tongues into the grooved edges of the molding as illustrated by Fig. 8, either before or after the plate has been screwed to the wall.

## FITTINGS

## Base Couplings

One No. 501 base coupling is furnished with each length of Wiremold, but extra couplings must be used where short lengths are installed.

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
137534	501	20	100	2	\$0.04

## Molding Bushings

No. 502 bushing should be used wherever Wiremold enters fittings, for the same purpose bushings are used in outlet boxes with rigid conduit. The bushing is slipped into the end of Wiremold and should be installed in all cases before molding is assembled with fittings. It is locked tightly in place by the base plates of fittings.

137535	502	20	100	1	.04
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## Supporting Clips

No. 503 supporting clips are designed to support Wiremold in the middle of lengths or where tongues of fittings do not serve the purpose. They are designed to be secured to the wall with a No. 8 flat head wood screw and Wiremold snapped into them. The screw hole is slotted to allow clip to be adjusted to the line of the molding.

137536	503	20	100	1	.04
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## Supporting Straps

No. 504 supporting straps are designed for use in cases where exceptionally rigid support is required for Wiremold.

137537	504	20	100	1	.04
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## Ground Couplings

No. 509 ground couplings are standard screwless ground couplings for Wiremold. In installing them, the ground wire is first soldered into the lug. The coupling is then laid against the molding base, given a quarter turn and the lug bent down, which locks it firmly into the grooved edges of the molding capping.

137538	509	5	100	1	.08
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## WIREMOLD FITTINGS

### ELBOW FITTINGS

#### 90-degree Flat Elbows, Non-splice Type

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
137546	511	5	100	10	\$0.20

#### 45-degree Flat Elbows, Non-splice Type

137547	512	5	100	8	.20
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#### Plain Tees

137550	515	5	100	16	.30
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#### Plain Crosses

137551	516	5	100	18	.36
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#### Internal Elbows

137552	517	5	100	10	.20
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#### External Elbows

137553	518	5	100	8	.20
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### CORNER BOXES

No. 519 corner boxes have been designed to provide in a single fitting for most of the corner combinations necessary where a run of Wiremold rises on the side wall and must be turned and run close up in the corner on the ceiling or vice versa.

A few of the many combinations which can be secured with this box are twisted elbow, twisted tee and twisted cross.

137554	519	5	100	22	.36
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### ONE-PIECE ROSETTES

No. 521 is a metal shell rosette equipped with bushing for drop cords. It is 2½ inches in diameter and has four twist-outs for Wiremold entrance.

137555	521	5	100	20	.40
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### TWO-PIECE ROSETTES

No. 522 is identical with No. 521 but is equipped with contact block having terminals for circuit and tap wires.

137556	522	5	100	25	.70
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### FIXTURE ROSETTES

No. 523 differs from No. 522 only in its bushing which is of insulating material and threaded for ½-inch fixture stems. It can be furnished with ½-inch bushing only. No. 523 may be used for hanging any small fixture having ½-inch stem. The insulating bushing furnished for this purpose is molded with clean, sharp threads from the highest grade material.

137557	523	5	100	25	1.00
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### RECEPTACLE BASES

No. 525 is a steel receptacle base equipped with standard fluted ring to permit sockets, ceiling switches and all similar fittings of fluted type to be mounted upon it. It is 2½ inches in diameter, has four twist-outs for Wiremold entrance and is provided with special easy-to-wire contact block. These contact blocks are furnished complete with two tap wires and make installation of socket bodies on No. 525 extremely simple.

137558	525	5	100	32	.80
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### KEYLESS RECEPTACLES

No. 526 is an all steel keyless receptacle of standard Edison type for use at light outlets or where an outlet for a screw attachment plug is desired.

137602	526	5	100	32	.90
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### ATTACHMENT PLUGS

No. 527 is made up of a steel base equipped with a standard attachment plug or the type having slots for caps with either parallel or opposed prongs.

It is 2½ inches in diameter, has four twist-outs for Wiremold and is so arranged that it may be very easily wired in any position.

137559	527	5	100	30	1.00
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No. 511



No. 512



No. 515



No. 516



No. 517

No. 519



No. 521



No. 525



No. 526



No. 527



## WIREMOLD FITTINGS



No. 531



No. 533



No. 536



No. 537



No. 538



No. 542



Nos. 543 and 544

### 2 1/4-INCH BLANK COVERS

No. 531 cover is designed for use with boxes Nos. 532 and 533 where they are used for junction purposes only.

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std., Pkg.	Price Each
137570	531	5	100	10	\$0.20

### 2 1/2-INCH OUTLET BOXES

No. 532 is designed primarily as a base for 5-ampere snap switches, but may also be used as an outlet box with Type G or H Condulet and similar style covers.

137571	532	5	100	17	.40
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### 3-INCH OUTLET BOXES

No. 533 is designed primarily as a base for 10-ampere snap switches, but like No. 532, may also be used with many Type G or H Condulet covers, or those of similar design.

Both Nos. 532 and 533 may be assembled with many types of standard surface receptacles to form sidewall outlets for lamp, heating device or similar purpose.

137572	533	5	100	22	.50
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### 4-INCH BLANK COVERS

No. 536 is for use with boxes Nos. 537 and 538 where they are used for junction work only.

137573	536	5	100	34	.20
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### 4 3/4-INCH EXTENSION BOXES

No. 537 is for use in extending with Wiremold from existing conduit outlets, its base plate being arranged with special slots for the purpose and both its base plate and cover split so that it may be installed at old fixtures outlets without taking the fixture down.

137574	537	5	100	28	.60
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### 4 3/4-INCH FIXTURE BOXES

No. 538 is primarily designed for use in hanging fixtures, but is also arranged for a number of other purposes for which pancake type ceiling boxes are used. If the ceiling boxes are mounted on the surface the base plate of No. 538 can be readily substituted for it, thus indicating the ease with which Wiremold extensions may be made from pancake type outlets if the original box has been mounted on the surface.

The base plate of No. 537 can also be installed at old knob and tube outlets preparatory to extension with Wiremold. All fittings which can be mounted on 3 1/4 or 4-inch conduit boxes can also be mounted on Nos. 537 and 538.

137575	538	5	100	30	.60
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### ROUND CANOPY RINGS

No. 542 canopy ring has been designed for use with No. 538 fixture box to provide a base or seat for round canopies having a diameter greater than 4 1/2 inches.

No. 542 is 6 inches in diameter.

137577	542	5	50	24	.56
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### SQUARE CANOPY RINGS

Nos. 543 and 544 rings have been designed for the same use with No. 538 fixture box as the No. 542 ring. They must be used with all fixtures having square canopies, regardless of the canopy size. No. 543 is the 4 7/8-inch size; No. 544 the 6-inch size.

137578	543	5	50	21	.50
137579	544	5	50	32	.70



## WIREMOLD FITTINGS

### SWITCH BOXES AND COVERS

Nos. 549, 550

No. 549 is for use in installing any shallow type flush switch or receptacle with Wiremold, and consists of a shallow type switch case and a cover against which all standard switch and receptacle plates may be mounted.

No. 550 is for use in installing any shallow type push switch with Wiremold, and consists of a shallow type flush switch case and a special cover with standard openings for push buttons and mounting screws.

Nos. 549 and 550 will be found especially useful for installing flush switches or receptacles in brick, concrete or tile walls, as a hole only  $1\frac{1}{4}$  inches deep is required to take the box, rather than one  $2\frac{1}{4}$  or 3 inches deep as is necessary for standard switch cases.

Made in single size only. Fittings must be used in conjunction with standard switch cases where two or three gang outlets are required.

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
137601	549	1	50	26	\$0.80
137590	550	1	50	26	.80

### FLUSH SWITCH AND RECEPTACLE ADAPTERS

Nos. 551, 552 and 553 are designed for use in those cases where it is desirable to pick up a circuit at an old flush switch or receptacle outlet to make an extension with Wiremold. They are not complete fittings in themselves but designed to hook up with the outlet box which is usually found at an old flush switch or receptacle outlet and to remount the old switch or receptacle plate.

No. 552 and 553 may also be used in connection with standard two and three-gang flush switch boxes for installing gang switch or receptacle outlets on new Wiremold jobs.

Trade No.	Mfrs. No.	No. of Gangs	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
137591	551	1	1	100	32	\$0.60
137592	552	2	1	50	22	1.20
137593	553	3	1	25	14	2.00

### WIREMOLD BENDERS

The Wiremold Bender is a very light hand tool that bends or offsets Wiremold on close, easily fished radii with only a fraction of the effort required for  $\frac{1}{2}$ -inch conduit.

Bends or offsets may be made in the middle of a length of Wiremold. Handle not furnished with tool. Use about 2 feet length of  $\frac{1}{2}$ -inch pipe.

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
202957	600	1	10	25	\$4.00



No. 549



No. 550



No. 551



No. 600



## WIREMOLD FITTINGS



No. 581

### 1/2-INCH BOX CONNECTORS

No. 581 is provided at one end with a tongue for coupling Wiremold and at the opposite end with a male hub having standard 1/2-inch conduit thread. It is for use where Wiremold must be coupled to fittings having knock-outs for 1/2-inch conduit, as for example, a surface type cut-out cabinet.

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std., Pkg.	Price Each
137610	581	4	100	3	\$0.50



No. 582

### 1/2-INCH CONDUIT COUPLINGS

No. 582 is tapped at one end for standard 1/2-inch conduit and provided at the opposite end with a tongue for coupling Wiremold. It is for use where direct coupling must be made between Wiremold and 1/2-inch conduit, as in the case of passing through floors.

137611	582	4	100	8	.70
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### 1/2-INCH ELBOW BOX CONNECTORS



No. 583

As conductors must be fished into Wiremold, No. 583 is equipped with a removable steel cover, and has coupling tongue for Wiremold spaced far enough back from the threaded hub to allow ample fish room around the elbow. It is for use where an elbow coupling between Wiremold and some fitting having knock-out for 1/2-inch conduit is necessary, as with outlet box.

137612	583	1	50	4	.60
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### 1/2-INCH ELBOW CONDUIT COUPLINGS



No. 584

No. 584 differs from No. 583 in no particular save that its hub is tapped for standard 1/2-inch conduit instead of being furnished with male thread. It is for use where a direct elbow coupling must be made between Wiremold and 1/2-inch conduit, as for example where molding is coupled with conduit to pass through ceiling to floor above.

137613	584	1	50	5	.80
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### OPEN WORK AND WOOD MOLDING COUPLINGS



No. 588

No. 588 is an all steel fitting with Wiremold opening at one end and two bushed holes for wires at its opposite end. It has been especially designed for use in cases where a tap must be made from Wiremold to open work but may also be used to tap from the end of a run of wood molding, or when used in conjunction with a wood molding tee, from the side of a run of wood molding.

137614	588	5	100	12	.40
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## MOLDING AND TABLETS



No. 4090



Wire Grip Molding

### WIRE GRIP WOOD MOLDING

Mfrs. No.	No. of Grooves	Size of Groove Inches	PRICE, PER 1000 FEET				
			Softwood Painted White	Softwood Oak Stain	Softwood Unfinished	Hardwood Oak Stain	Hardwood Unfinished
3	2	1/4	\$63.00	\$59.00	\$53.00	\$73.75	\$66.25
4	3	1/4	92.00	84.00	76.00	105.00	92.50
5	2	3/8	88.00	82.00	74.00	105.00	95.00
6	3	3/8	126.00	122.00	110.00	152.50	137.50
7	2	1/2	106.00	102.00	96.00	127.50	120.00
8	3	1/2	138.00	126.00	116.00	157.50	145.00

### PAISTE MOLDING TABLETS

Molding tablets are used for making branches in either two or three-wire molding work. With them no soldering is necessary, as the branch wires come off from set screws.

They are made on the Fielding principle, and set on top of the molding base. The main wires are run through the tablet and skinned 1/4 inch to set under the contact screws, while the branch circuits are carried off in the branch molding from other contact screws.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
054340	4090	2-wire, single branch	250	130	\$0.30
054341	4091	3-wire, single branch	100	120	.45
054342	4092	3 to 2-wire, single branch	100	98	.40
054343	4093	3 to 2-wire, double branch	100	110	.60
054344	4094	2-wire, double branch	100	77	.45

### Angle Tablets

The angle tablets are for use where wires come through side wall from an adjacent room, and it is desired to take off a branch down the wall at that point.

054345	4107	2-wire	50	40	.50
054346	4108	3-wire	50	50	.60

### Corner Tablets

These corner tablets are for use at the corner of a room.

37345	4109	2-wire	50	50	.30
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### Crossovers

This crossover is very simple, being a porcelain channel piece for the wire runways, with a neat porcelain cover over all.

054347	4095	2-wire crossing 2-wire	250	95	.15
054348	4096	3-wire crossing 3-wire	100	65	.20
054349	4097	2-wire crossing 3-wire	100	62	.20
054350	4098	3-wire crossing 2-wire	100	63	.20

### Connectors

These connectors are to be used for straight through work where heretofore a splice has been necessary to continue the running of the wire.

054351	4099	2-wire	250	81	.25
054352	4100	3-wire	100	55	.35

### OPEN WORK Crossovers

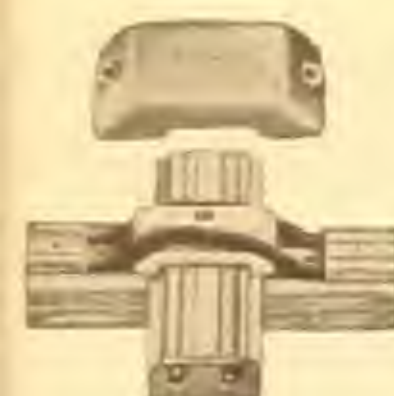
This crossover does away with the use of porcelain tubes or flexible loom where wires in open work cross each other. The insulator can be slipped into place after the wires are run and fastened, and it cannot become unfastened unless forced off. For making a crossover it requires four; for a branch, just one.

### For Open or Cleat Wiring

054353	5212	Single	250	29	.06
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No. 4109



No. 4095



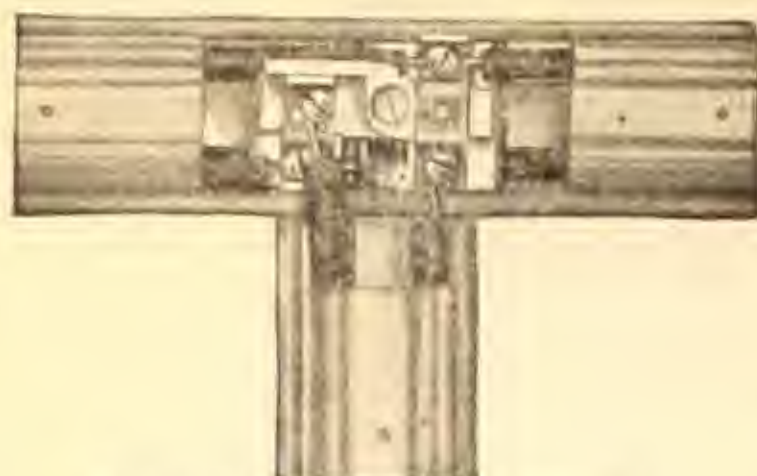
No. 4099



No. 5212



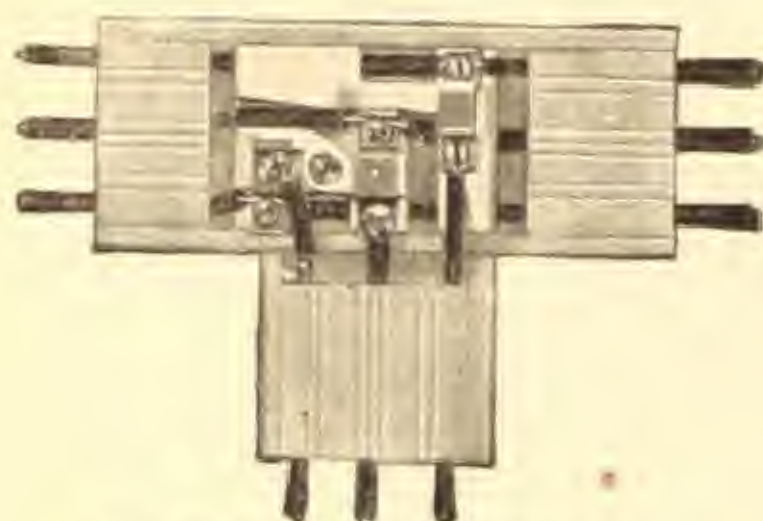
## JORDAN TAP-ONS



Nos. 90 with Cover Removed



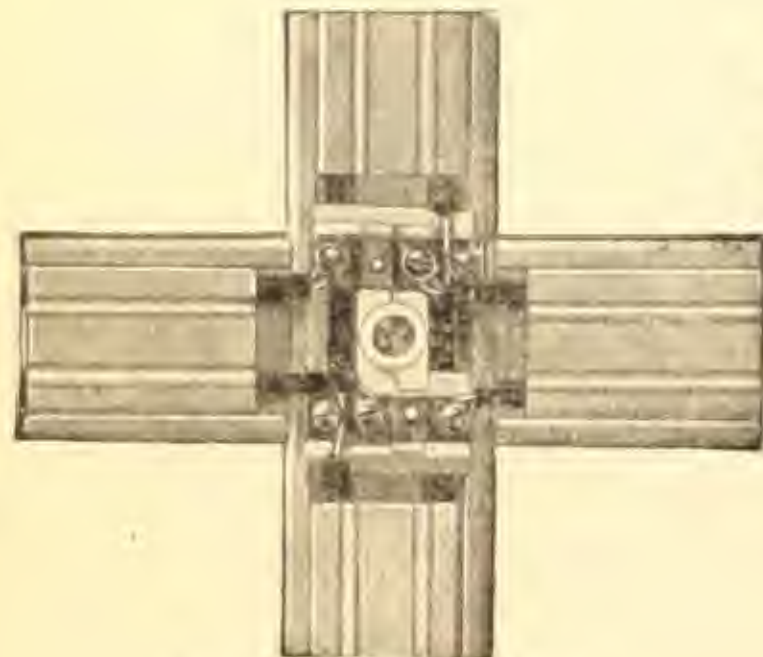
Nos. 95 and 96



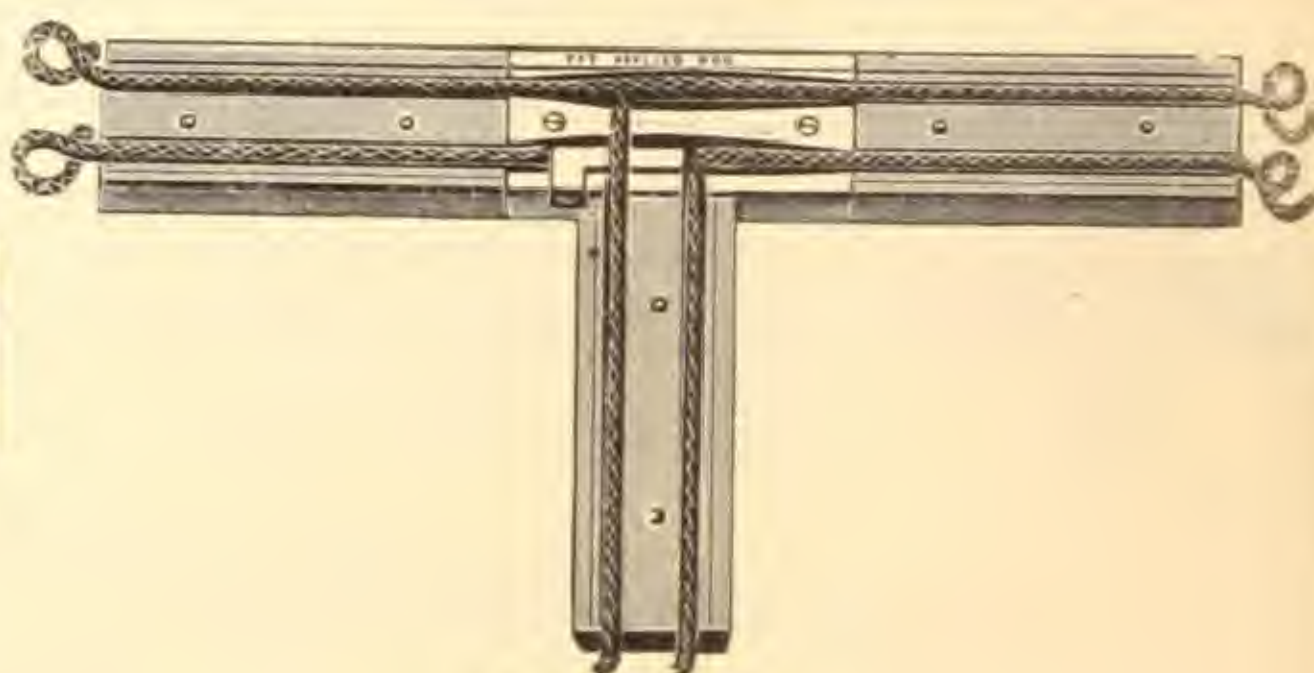
No. 91 with Cover Removed



Nos. 99 and 100



No. 94 Cover Removed



Splice Protector

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
202773	90	2-wire single branch	250	82	\$0.30
202774	91	3-wire single branch	100	53	.45
202775	94	2-wire double branch	100	35	.45
202776	95	2-wire crossing 2-wire	250	50	.15
202777	96	3-wire crossing 3-wire	100	30	.20
202778	99	2-wire connector	250	34	.25
202779	100	3-wire connector	100	30	.35
202780	110	Jordan splice protector	250	65	.30

Standard packages 250, may be assorted all types.

Standard packages 100, may be assorted only Nos. 91, 94, 96 and 100.

The Jordan Splice Protector is designed for use wherever a branch, tap or splice is made in a moulding line. No whittling of the moulding or capping necessary.



## TYPES A, B AND BE CONDULET BODIES WITH OBOURD OPENINGS

Types A and B Condulet Bodies Take Obround Covers and Obround Conduletto Fittings

Type BE Condulet Bodies Take Obround Covers Only



### TYPE A CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	2
Catalogue Number..	A1	A2	A3	A4	A5	A6
Standard Package..	200	100	50	20	10	5
Ship. Wt. Std. Pkg..	130 lbs.	95 lbs.	80 lbs.	60 lbs.	40 lbs.	30 lbs.
List Price, each....	\$ .24	\$ .31	\$ .43	\$ .62	\$ .80	\$1.66
Size in inches.....	2 1/2	3	3 1/2	4	5	6
Catalogue Number..	A7	A8	A9	A10	A012	A014
Standard Package..	5	5	5	5	5	5
Ship. Wt. Std. Pkg..	50 lbs.	55 lbs.	65 lbs.	70 lbs.	90 lbs.	100 lbs.
List Price, each....	\$4.95	\$5.45	\$10.40	\$11.70	\$20.00	\$30.00



### TYPE B CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number..	B1	B2	B3	B4	B5
Standard Package..	200	100	50	20	10
Ship. Wt. Std. Pkg..	140 lbs.	100 lbs.	80 lbs.	65 lbs.	40 lbs.
List Price, each....	\$ .29	\$ .36	\$ .50	\$ .80	\$1.04
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number..	B6	B7	B8	B9	B10
Standard Package..	5	5	5	5	5
Ship. Wt. Std. Pkg..	30 lbs.	50 lbs.	60 lbs.	65 lbs.	70 lbs.
List Price, each....	\$2.14	\$5.35	\$5.85	\$11.35	\$12.70



### TYPE BE CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2	2
Catalogue Number..	BE1	BE2	BE3	BE4	BE5	BE6
Standard Package..	200	100	50	20	10	5
Ship. Wt. Std. Pkg..	390 lbs.	300 lbs.	190 lbs.	120 lbs.	100 lbs.	80 lbs.
List Price, each....	\$ .40	\$ .50	\$ .85	\$1.30	\$2.00	\$3.50
Size in inches.....	2 1/2	3	3 1/2	4	5	6
Catalogue Number..	BE7	BE8	BE9	BE10	BE012	BE014
Standard Package..	5	5	5	5	5	5
Ship. Wt. Std. Pkg..	160 lbs.	160 lbs.	225 lbs.	225 lbs.	430 lbs.	430 lbs.
List Price, each....	\$9.35	\$10.15	\$21.30	\$25.30	\$70.00	\$80.00

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size, except that type BE Condulet bodies take Obround covers only.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH21)



## TYPES C, CO AND D CONDULET BODIES WITH OBROUND OPENINGS

Take Obround Covers and Obround Conduletto Fittings



### TYPE C CONDULET BODIES—Black Enamel Finish

Size in inches. ....	1/2	3/4	1	1 1/4	1 1/2
Catalogue No. ....	C1	C2	C3	C4	C5
Standard Package.	200	100	50	20	10
Weight Std. Pkg. .	165 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each. .	\$ .36	\$ .41	\$ .59	\$ .94	\$1.22
Size in inches. ....	2	2 1/2	3	3 1/2	4
Catalogue No. ....	C6	C7	C8	C9	C10
Standard Package.	5	5	5	5	5
Weight Std. Pkg. .	35 lbs.	65 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each. .	\$2.43	\$6.25	\$7.40	\$16.70	\$18.30



### TYPE CO CONDULET BODIES—Black Enamel Finish

Size in inches. ....	1/2	3/4	1	1 1/4	1 1/2
Catalogue No. ....	CO11	CO22	CO33	CO44	CO55
Standard Package.	75	50	25	15	10
Weight Std. Pkg. .	120 lbs.	100 lbs.	60 lbs.	50 lbs.	50 lbs.
List Price, each. .	\$ .50	\$ .65	\$ .75	\$1.25	\$1.60
Size in inches. ....	2	2 1/2	3	3 1/2	4
Catalogue No. ....	CO66	CO77	CO88	CO99	CO1010
Standard Package.	5	5	5	5	5
Weight Std. Pkg. .	45 lbs.	70 lbs.	80 lbs.	100 lbs.	120 lbs.
List Price, each. .	\$3.25	\$7.80	\$9.25	\$21.00	\$23.00



### TYPE D CONDULET BODIES—Black Enamel Finish

Size in inches. ....	1/2	3/4	1	1 1/4	1 1/2
Catalogue No. ....	D1	D2	D3	D4	D5
Standard Package.	75	50	25	15	10
Weight Std. Pkg. .	60 lbs.	60 lbs.	40 lbs.	50 lbs.	45 lbs.
List Price, each. .	\$ .34	\$ .41	\$ .57	\$ .94	\$1.22
Size in inches. ....	2	2 1/2	3	3 1/2	4
Catalogue No. ....	D6	D7	D8	D9	D10
Standard Package.	5	5	5	5	5
Weight Std. Pkg. .	35 lbs.	65 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each. .	\$2.43	\$6.25	\$7.40	\$16.70	\$18.30

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and with the same size cover openings may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH22)



## TYPES E, F AND FE CONDULET BODIES

### WITH OBOURD OPENINGS

Type E Condulet Bodies Take Obround Covers and Obround Conduletto Fittings

Types F and FE Condulet Bodies Take Obround Covers Only

#### TYPE E CONDULET BODIES—Black Enamel Finish

Size in inches . . . . .	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number . .	E1	E2	E3	E4	E5
Standard Package . .	200	100	50	20	10
Shipping Wt. Std. Pkg.	140 lbs.	110 lbs.	80 lbs.	60 lbs.	40 lbs.
List Price, each . . . .	\$ .29	\$ .35	\$ .50	\$ .80	\$1.04
Size in inches . . . . .	2	2 1/2	3	3 1/2	4
Catalogue Number . .	E6	E7	E8	E9	E10
Standard Package . .	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	55 lbs.	60 lbs.	65 lbs.	70 lbs.
List Price, each . . . .	\$2.14	\$5.35	\$5.85	\$11.35	\$12.70

#### TYPE F CONDULET BODIES—Black Enamel Finish

Size in inches . . . . .	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number . .	F1	F2	F3	F4	F5
Standard Package . .	100	100	50	20	10
Shipping Wt. Std. Pkg.	150 lbs.	200 lbs.	175 lbs.	105 lbs.	65 lbs.
List Price, each . . . .	\$ .50	\$ .65	\$1.05	\$1.64	\$2.52
Size in inches . . . . .	2	2 1/2	3	3 1/2	4
Catalogue Number . .	F6	F7	F8	F9	F10
Standard Package . .	5	5	5	5	5
Shipping Wt. Std. Pkg.	45 lbs.	115 lbs.	115 lbs.	265 lbs.	315 lbs.
List Price, each . . . .	\$4.40	\$11.70	\$12.70	\$26.60	\$31.60

#### TYPE FE CONDULET BODIES—Black Enamel Finish

Size in inches . . . . .	1/2	3/4	1	1 1/4	1 1/2	2
Catalogue Number . .	FE1	FE2	FE3	FE4	FE5	FE6
Standard Package . .	100	100	50	20	10	5
Shipping Wt. Std. Pkg.	240 lbs.	350 lbs.	240 lbs.	175 lbs.	130 lbs.	100 lbs.
List Price, each . . . .	\$ .50	\$ .65	\$1.05	\$1.64	\$2.52	\$4.40
Size in inches . . . . .	2 1/2	3	3 1/2	4	5	6
Catalogue Number . .	FE7	FE8	FE9	FE10	FE012	FE014
Standard Package . .	5	5	5	5	5	5
Shipping Wt. Std. Pkg.	200 lbs.	200 lbs.	320 lbs.	320 lbs.	600 lbs.	600 lbs.
List Price, each . . . .	\$11.70	\$12.70	\$26.60	\$31.60	\$90.00	\$100.00

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size, except that types F and FE Condulet bodies take Obround covers only.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH23)



# TYPES LB, LF, LL AND LR CONDULET BODIES

## WITH OBOURD OPENINGS

Take Obround Covers and Obround Conduletto Fittings



TYPE LB CONDULET BODIES—Black Enamel Finish					
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number ...	LB11	LB22	LB33	LB44	LB55
Standard Package ....	200	100	50	20	10
Shipping Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each.....	\$ .40	\$ .45	\$ .65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number ...	LB66	LB77	LB88	LB99	LB1010
Standard Package ....	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each.....	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10



TYPE LF CONDULET BODIES—Black Enamel Finish					
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number ...	LF11	LF22	LF33	LF44	LF55
Standard Package ....	200	100	50	20	10
Shipping Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each.....	\$ .40	\$ .45	\$ .65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number ...	LF66	LF77	LF88	LF99	LF1010
Standard Package ....	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each.....	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10



TYPE LL CONDULET BODIES—Black Enamel Finish					
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number ...	LL11	LL22	LL33	LL44	LL55
Standard Package ....	200	100	50	20	10
Shipping Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each.....	\$ .40	\$ .45	\$ .65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number ...	LL66	LL77	LL88	LL99	LL1010
Standard Package ....	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each.....	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10



TYPE LR CONDULET BODIES—Black Enamel Finish					
Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue Number ...	LR11	LR22	LR33	LR44	LR55
Standard Package ....	200	100	50	20	10
Shipping Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each.....	\$ .40	\$ .45	\$ .65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue Number ...	LR66	LR77	LR88	LR99	LR1010
Standard Package ....	5	5	5	5	5
Shipping Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each.....	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10

For finishes and other important information, see notes on page Cross Reference No. CH26. Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. Black enameled and galvanized types LB, LF, LL and LR Condulet bodies of the same size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH24)



# TYPES LBB, LFB, LLB AND LRB CONDULET BODIES WITH OBROUND OPENINGS

Take Obround Covers and Obround Conduletto Fittings

## TYPE LBB CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue No.....	LBB11	LBB22	LBB33	LBB44	LBB55
Standard Pkg.....	100	75	50	20	10
Weight Std. Pkg..	100 lbs.	95 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each...	\$ .40	\$ .45	\$ .65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue No.....	LBB66	LBB77	LBB88	LBB99	LBB1010
Standard Pkg.....	5	5	5	5	5
Weight Std. Pkg..	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each...	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10

## TYPE LFB CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue No.....	LFB11	LFB22	LFB33	LFB44	LFB55
Standard Pkg.....	100	75	50	20	10
Weight Std. Pkg..	100 lbs.	95 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each...	\$ .40	\$ .45	\$ .65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue No.....	LFB66	LFB77	LFB88	LFB99	LFB1010
Standard Pkg.....	5	5	5	5	5
Weight Std. Pkg..	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each...	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10

## TYPE LLB CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue No.....	LLB11	LLB22	LLB33	LLB44	LLB55
Standard Pkg.....	100	75	50	20	10
Weight Std. Pkg..	100 lbs.	95 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each...	\$ .40	\$ .45	\$ .65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue No.....	LLB66	LLB77	LLB88	LLB99	LLB1010
Standard Pkg.....	5	5	5	5	5
Weight Std. Pkg..	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each...	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10

## TYPE LRB CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
Catalogue No.....	LRB11	LRB22	LRB33	LRB44	LRB55
Standard Pkg.....	100	75	50	20	10
Weight Std. Pkg..	100 lbs.	95 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each...	\$ .40	\$ .45	\$ .65	\$1.04	\$1.37
Size in inches.....	2	2 1/2	3	3 1/2	4
Catalogue No.....	LRB66	LRB77	LRB88	LRB99	LRB1010
Standard Pkg.....	5	5	5	5	5
Weight Std. Pkg..	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each...	\$2.65	\$6.55	\$7.70	\$17.10	\$19.10

For finishes and other important information, see notes on page Cross Reference CH26.  
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. Black enameled and galvanized types LBB, LFB, LLB and LRB Condulet bodies of the same size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH25)



## TYPES LBL, LU, U AND UB CONDULET BODIES

## WITH OBROUND OPENINGS

Take Obround Covers and Obround Conduletto Fittings



## TYPE LBL CONDULET BODIES

Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number....	LBL111	LBL222	LBL333
Standard Package.....	50	35	25
Ship. Wt. Std. Pkg....	60 lbs.	55 lbs.	55 lbs.
List Price, each .....	\$ .65	\$ .80	\$ .95



## TYPE LU CONDULET BODIES

Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number....	LU111	LU222	LU333
Standard Package.....	50	35	25
Ship. Wt. Std. Pkg....	70 lbs.	65 lbs.	60 lbs.
List Price, each .....	\$ .65	\$ .80	\$ .95



## TYPE U CONDULET BODIES—Black Enamel Finish

Size in inches	1/2	3/4	1	1 1/4	1 1/2
Cat. No.....	U11	U22	U33	U44	U55
Std. Pkg.....	100	50	40	20	10
Wt. Std. Pkg.	100 lbs.	80 lbs.	80 lbs.	75 lbs.	45 lbs.
List Price, ea.	\$ .52	\$ .57	\$ .85	\$1.19	\$1.52
Size in inches	2	2 1/2	3	3 1/2	4
Cat. No.....	U66	U77	U88	U99	U1010
Std. Pkg.....	5	5	5	5	5
Wt. Std. Pkg.	40 lbs.	70 lbs.	75 lbs.	90 lbs.	100 lbs.
List Price, ea.	\$2.90	\$7.10	\$8.10	\$18.60	\$20.60



## TYPE UB CONDULET BODIES—Black Enamel Finish

Size in inches	1/2	3/4	1	1 1/4	1 1/2
Cat. No.....	UB11	UB22	UB33	UB44	UB55
Std. Pkg.....	100	50	40	20	10
Wt. Std. Pkg.	100 lbs.	80 lbs.	80 lbs.	75 lbs.	45 lbs.
List Price, ea.	\$ .52	\$ .57	\$ .85	\$1.19	\$1.52
Size in inches	2	2 1/2	3	3 1/2	4
Cat. No.....	UB66	UB77	UB88	UB99	UB1010
Std. Pkg.....	5	5	5	5	5
Wt. Std. Pkg.	40 lbs.	70 lbs.	75 lbs.	90 lbs.	100 lbs.
List Price, ea.	\$2.90	\$7.10	\$8.10	\$18.60	\$20.60

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH26)



# TYPE T CONDULET BODIES

## WITH OBROUND OPENINGS

Takes Obround Covers and Obround Conduletto Fittings



### TYPE T CONDULET BODIES—Black Enamel Finish

Size in inches.....	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{1}{2}$	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{3}{4}$	$\frac{1}{2}$ — $\frac{1}{2}$ 1	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{1}{2}$
Cat. No.....	T111*	T121*	T131	T212*
Std. Pkg.....	100	100	100	75
Wt. Std. Pkg.....	120 lbs.	120 lbs.	90 lbs.	75 lbs.
List Price, each.....	\$ .48	\$ .56	\$ .63	\$ .57

Size in inches	$\frac{3}{4}$ — $\frac{3}{4}$ $\frac{3}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$ 1	$\frac{3}{4}$ — $\frac{3}{4}$ $1\frac{1}{4}$	$\frac{3}{4}$ — $\frac{3}{4}$ $1\frac{1}{2}$	1—1 $\frac{1}{2}$	1—1 $\frac{3}{4}$	1—1 1	1—1 $1\frac{1}{4}$
Cat. No.....	T222*	T232	T242	T252	T313	T323	T333*	T343
Std. Pkg.....	75	75	75	75	50	50	50	50
Wt. Std. Pkg.....	85 lbs.	95 lbs.	100 lbs.	120 lbs.	95 lbs.	100 lbs.	105 lbs.	115 lbs.
List Price, ea.....	\$ .57	\$ .65	\$ .77	\$ .90	\$ .80	\$ .80	\$ .80	\$ .97

Size in inches	1—1 $1\frac{1}{2}$	1—1 2	$1\frac{1}{4}$ — $1\frac{1}{4}$ $\frac{1}{2}$	$1\frac{1}{4}$ — $1\frac{1}{4}$ $\frac{3}{4}$	$1\frac{1}{4}$ — $1\frac{1}{4}$ 1	$1\frac{1}{4}$ — $1\frac{1}{4}$ $1\frac{1}{4}$	$1\frac{1}{4}$ — $1\frac{1}{4}$ $1\frac{1}{2}$	$1\frac{1}{4}$ — $1\frac{1}{4}$ 2
Cat. No.....	T353*	T363*	T414	T424	T434	T444	T454	T464
Std. Pkg.....	50	50	20	20	20	20	20	20
Wt. Std. Pkg.....	125 lbs.	135 lbs.	70 lbs.	75 lbs.	80 lbs.	85 lbs.	90 lbs.	95 lbs.
List Price, ea.....	\$1.15	\$1.45	\$1.22	\$1.22	\$1.22	\$1.22	\$1.50	\$1.96

Size in inches	$1\frac{1}{2}$ — $1\frac{1}{2}$ $\frac{1}{2}$	$1\frac{1}{2}$ — $1\frac{1}{2}$ $\frac{3}{4}$	$1\frac{1}{2}$ — $1\frac{1}{2}$ 1	$1\frac{1}{2}$ — $1\frac{1}{2}$ $1\frac{1}{4}$	$1\frac{1}{2}$ — $1\frac{1}{2}$ $1\frac{1}{2}$	$1\frac{1}{2}$ — $1\frac{1}{2}$ 2	2—2 $\frac{1}{2}$	2—2 $\frac{3}{4}$
Cat. No.....	T515	T525	T535	T545	T555	T565	T616	T626
Std. Pkg.....	10	10	10	10	10	10	5	5
Wt. Std. Pkg.....	45 lbs.	45 lbs.	50 lbs.	50 lbs.	50 lbs.	95 lbs.	95 lbs.	100 lbs.
List Price, ea.....	\$1.69	\$1.69	\$1.69	\$1.69	\$1.69	\$2.52	\$2.55	\$2.55

Size in inches	2—2 1	2—2 $1\frac{1}{4}$	2—2 $1\frac{1}{2}$	2—2 2	$2\frac{1}{2}$ — $2\frac{1}{2}$ $1\frac{1}{2}$	$2\frac{1}{2}$ — $2\frac{1}{2}$ 2	$2\frac{1}{2}$ — $2\frac{1}{2}$ $2\frac{1}{2}$	3—3 2
Cat. No.....	T636	T646	T656	T666	T757	T767	T777	T868
Std. Pkg.....	5	5	5	5	5	5	5	5
Wt. Std. Pkg.....	105 lbs.	115 lbs.	125 lbs.	135 lbs.	95 lbs.	100 lbs.	105 lbs.	115 lbs.
List Price, ea.....	\$2.55	\$2.55	\$2.55	\$2.55	\$7.45	\$7.45	\$7.45	\$8.15

Size in inches	3—3 $2\frac{1}{2}$	3—3 3	$3\frac{1}{2}$ — $3\frac{1}{2}$ $2\frac{1}{2}$	$3\frac{1}{2}$ — $3\frac{1}{2}$ 3	$3\frac{1}{2}$ — $3\frac{1}{2}$ $3\frac{1}{2}$	4—4 3	4—4 $3\frac{1}{2}$	4—4 4
Cat. No.....	T878	T888	T979	T989	T999	T108	T109	T1010
Std. Pkg.....	5	5	5	5	5	5	5	5
Wt. Std. Pkg.....	125 lbs.	135 lbs.	45 lbs.	45 lbs.	50 lbs.	50 lbs.	50 lbs.	55 lbs.
List Price, ea.....	\$8.15	\$8.15	\$22.60	\$22.60	\$22.60	\$24.60	\$24.60	\$24.60

The size of cover required for type T Condulet body is the same size as the conduit hubs at the ends of the cover opening.

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

For finishes, see page Cross Reference No. CH26.

Black enameled and galvanized Condulet bodies of the same type and with the same size cover openings may be assorted to make a standard package. No other assortment is allowed.  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1-inch types T, TB and X Condulet bodies are regularly furnished with larger wiring chamber than other Obround Condulet bodies of corresponding size. These Condulet bodies will be furnished with wiring chamber of the same size as other Obround Condulet bodies, if specifically ordered, using regular catalogue numbers and specifying "Smaller Wiring Chamber."

Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH27)



# TYPES TB, TL AND TR CONDULET BODIES WITH OBROUND OPENINGS

Take Obround Covers and Obround Conduletto Fittings



TYPE TB CONDULET BODIES—Black Enamel Finish					
Size in inches . . .	1/2	3/4	1	1 1/4	1 1/2
Catalogue No. . . .	TB111*	TB222*	TB333*	TB444	TB555
Standard Package.	200	100	50	20	10
Ship. Wt. Std. Pkg.	175 lbs.	120 lbs.	90 lbs.	75 lbs.	45 lbs.
List Price, each . .	\$ .48	\$ .57	\$ .80	\$1.22	\$1.69
Size in inches . . .	2	2 1/2	3	3 1/2	4
Catalogue No. . . .	TB666	TB777	TB888	TB999	TB1010
Standard Package.	5	5	5	5	5
Ship. Wt. Std. Pkg.	35 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
List Price, each . .	\$2.55	\$7.45	\$8.15	\$22.60	\$24.60



TYPE TL CONDULET BODIES—Black Enamel Finish					
Size in inches . . .	1/2 — 1/2 1/2	1/2 — 1/2 3/4	1/2 — 1/2 1	3/4 — 3/4 1/2	3/4 — 3/4 3/4
Catalogue No. . . .	TL111	TL121	TL131	TL212	TL222
Standard Package.	100	100	100	50	50
Ship. Wt. Std. Pkg.	95 lbs.	100 lbs.	105 lbs.	115 lbs.	125 lbs.
List Price, each . .	\$ .48	\$ .56	\$ .63	\$ .57	\$ .57
Size in inches . . .	3/4 — 3/4 1	1 — 1 1/2	1 — 1 3/4	1 — 1 1	1 1/4 — 1 1/4 1 1/4
Catalogue No. . . .	TL232	TL313	TL323	TL333	TL444
Standard Package.	50	40	40	40	20
Ship. Wt. Std. Pkg.	135 lbs.	100 lbs.	100 lbs.	100 lbs.	75 lbs.
List Price, each . .	\$ .65	\$ .80	\$ .80	\$ .80	\$1.22



TYPE TR CONDULET BODIES—Black Enamel Finish					
Size in inches . . .	1/2 — 1/2 1/2	1/2 — 1/2 3/4	1/2 — 1/2 1	3/4 — 3/4 1/2	3/4 — 3/4 3/4
Catalogue No. . . .	TR111	TR121	TR131	TR212	TR222
Standard Package.	100	100	100	50	50
Ship. Wt. Std. Pkg.	95 lbs.	100 lbs.	105 lbs.	115 lbs.	125 lbs.
List Price, each . .	\$ .48	\$ .56	\$ .63	\$ .57	\$ .57
Size in inches . . .	3/4 — 3/4 1	1 — 1 1/2	1 — 1 3/4	1 — 1 1	1 1/4 — 1 1/4 1 1/4
Catalogue No. . . .	TR232	TR313	TR323	TR333	TR444
Standard Package.	50	40	40	40	20
Ship. Wt. Std. Pkg.	135 lbs.	100 lbs.	100 lbs.	100 lbs.	75 lbs.
List Price, each . .	\$ .65	\$ .80	\$ .80	\$ .80	\$1.22

The size of cover required for a type TL or TR Condulet body is the same size as the conduit hubs at the ends of the cover opening.

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

**Assortments:** Black enameled and galvanized Condulet bodies of the same type and with the same size cover openings may be assorted to make up a standard package. Black enameled and galvanized types TL and TR Condulet bodies with the same size cover openings may be assorted to make up a standard package. No other assortment is allowed.

\*1/2, 3/4 and 1-inch types T, TB and X Condulet bodies are regularly furnished with larger wiring chamber than other Obround Condulet bodies of corresponding size. These Condulet bodies will be furnished with wiring chamber of the same size as other Obround Condulet bodies, if specifically ordered, using regular catalogue numbers and specifying Smaller Wiring Chamber.

For finishes, see note on page Cross Reference No. CH26. Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.


(Cross Reference No. CH28)



# TYPE X CONDULET BODIES

## WITH OBROUND OPENINGS

Takes Obround Covers and Obround Conduletto Fittings

TYPE X CONDULET BODIES—Black Enamel Finish									
		Size in inches.....			$\frac{1}{2} \text{---} \frac{1}{2}$	$\frac{1}{2} \text{---} \frac{1}{2}$	$\frac{1}{2} \text{---} \frac{1}{2}$	$\frac{3}{4} \text{---} \frac{3}{4}$	
		Catalogue Number .....			X1111*	X2111	X2112*	X2222*	
		Standard Package.....			75	50	50	50	
		Shipping Weight Std. Pkg....			95 lbs.	65 lbs.	70 lbs.	85 lbs.	
		List Price, each.....			\$ .60	\$ .77	\$ .77	\$ .77	
Size in inches.....		$\frac{1}{2} \text{---} \frac{3}{4}$	$\frac{3}{4} \text{---} \frac{3}{4}$	$\frac{1}{2} \text{---} 1$	$\frac{3}{4} \text{---} 1$	$1 \text{---} 1$	$1 \frac{1}{4} \text{---} 1$	$1 \frac{1}{4} \text{---} \frac{3}{4}$	
Catalogue Number .....		X3112	X3222	X3113	X3223	X3333*	X4113	X4222	
Standard Package.....		35	35	35	35	35	20	20	
Weight Std. Pkg.....		50 lbs.	45 lbs.	50 lbs.	60 lbs.	75 lbs.	55 lbs.	60 lbs.	
List Price, each.....		\$1.05	\$1.05	\$1.05	\$1.05	\$1.05	\$1.24	\$1.24	
Size in inches.....		$1 \frac{1}{4} \text{---} 1$	$1 \frac{1}{4} \text{---} 1$	$1 \frac{1}{4} \text{---} 1 \frac{1}{4}$	$1 \frac{1}{4} \text{---} 1 \frac{1}{4}$	$1 \frac{1}{4} \text{---} 1 \frac{1}{4}$	$1 \frac{1}{2} \text{---} 1 \frac{1}{4}$	$1 \frac{1}{2} \text{---} 1 \frac{1}{4}$	
Catalogue Number .....		X4223	X4333	X4114	X4224	X4444	X5114	X5224	
Standard Package.....		20	20	20	20	20	10	10	
Weight Std. Pkg.....		65 lbs.	70 lbs.	75 lbs.	80 lbs.	85 lbs.	40 lbs.	45 lbs.	
List Price, each.....		\$1.24	\$1.24	\$1.24	\$1.24	\$1.24	\$1.78	\$1.78	
Size in inches.....		$1 \frac{1}{2} \text{---} 1 \frac{1}{2}$	$1 \frac{1}{2} \text{---} 1$	$1 \frac{1}{2} \text{---} 1 \frac{1}{4}$	$1 \frac{1}{2} \text{---} 1 \frac{1}{2}$	$1 \frac{1}{2} \text{---} 1 \frac{1}{2}$	$2 \text{---} 1 \frac{1}{2}$	$2 \text{---} 1 \frac{1}{2}$	
Catalogue Number .....		X5225	X5333	X5334	X5335	X5555	X6115	X6225	
Standard Package.....		10	10	10	10	10	5	5	
Weight Std. Pkg.....		50 lbs.	50 lbs.	55 lbs.	55 lbs.	60 lbs.	35 lbs.	35 lbs.	
List Price, each.....		\$1.78	\$1.78	\$1.78	\$1.78	\$1.78	\$2.85	\$2.85	
Size in inches		$2 \text{---} 1 \frac{1}{2}$	$2 \text{---} 2$	$2 \text{---} 2$	$2 \frac{1}{2} \text{---} 1 \frac{1}{2}$	$2 \frac{1}{2} \text{---} 1 \frac{1}{2}$	$2 \frac{1}{2} \text{---} 2 \frac{1}{2}$	$3 \text{---} 2$	
Cat. No.....		X6335	X6336	X6666	X7335	X7555	X7557	X8556	
Std. Pkg.....		5	5	5	5	5	5	5	
t. Std. Pkg.		40 lbs.	40 lbs.	45 lbs.	70 lbs.	75 lbs.	75 lbs.	80 lbs.	
st Price, ea.		\$2.85	\$2.85	\$2.85	\$8.95	\$8.95	\$8.95	\$9.95	
Size in inches		$3 \text{---} 2 \frac{1}{2}$	$3 \text{---} 3$	$3 \frac{1}{2} \text{---} 2 \frac{1}{2}$	$3 \frac{1}{2} \text{---} 3$	$3 \frac{1}{2} \text{---} 3 \frac{1}{2}$	$4 \text{---} 3$	$4 \text{---} 4$	
Cat. No.....		X8667	X8888	X9667	X9778	X9999	X1078	X1010	
Std. Pkg.....		5	5	5	5	5	5	5	
t. Std. Pkg.		85 lbs.	90 lbs.	95 lbs.	100 lbs.	105 lbs.	105 lbs.	110 lbs.	
st Price, ea.		\$9.95	\$9.95	\$25.00	\$25.00	\$25.00	\$27.00	\$27.00	

The size of cover required for type X Condulet body is the same size as the largest conduit hub. Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.

For finishes, see page Cross Reference No. CH26.

Black enameled and galvanized type X Condulet bodies with the same size cover openings may be assorted to make up a standard package. No other assortment is allowed.

2, 3/4 and 1-inch types T, TB and X Condulet bodies are regularly furnished with larger wiring chamber than other Obround Condulet bodies of corresponding size. These Condulet bodies will be furnished with wiring chamber of the same size as other Obround Condulet bodies, if specifically ordered, using regular catalogue numbers and specifying "Smaller Wiring Chamber."

Obround covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto fittings are listed on page Cross Reference No. CH184a. Obround gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH29)



# TYPES DF, LFM, LFN, TM AND TMD CONDULET BODIES WITH OBROUND OPENINGS

Condulets for Gooseneck Brackets and Similar Installations  
Types DF and TM Condulet Bodies Take Obround Covers only  
Types LFM, LFN and TMD Condulet Bodies Take Obround Covers and Obround Conduletto Fittings



## TYPE DF CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No. ....	DF1	DF2	DF3
Std. Pkg. ....	35	35	35
Wt. Std. Pkg..	100 lbs.	120 lbs.	160 lbs.
List, each ....	\$1.15	\$1.30	\$1.55



Type DF Condulet with gooseneck bracket and type VA Condulet.



## TYPE LFM CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No. ....	LFM11	LFM22	LFM33
Std. Pkg. ....	35	35	35
Wt. Std. Pkg..	90 lbs.	100 lbs.	110 lbs.
List, each ....	\$1.15	\$1.30	\$1.55



Type LFM Condulet with gooseneck bracket and type WV Condulet.



## TYPE LFN CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No. ....	LFN11	LFN22	LFN33
Std. Pkg. ....	35	35	35
Wt. Std. Pkg..	90 lbs.	100 lbs.	110 lbs.
List, each ....	\$1.15	\$1.30	\$1.55



Type LFN Condulet with light fixture.



## TYPE TM CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No. ....	TM111	TM222	TM333
Std. Pkg. ....	35	35	35
Wt. Std. Pkg..	100 lbs.	110 lbs.	125 lbs.
List, each ....	\$1.30	\$1.45	\$1.70



Type TM Condulet with gooseneck bracket and type WV Condulet.



## TYPE TMD CONDULET BODIES

Black Enamel Finish

Size in inches.	1/2	3/4	1
Cat. No. ....	TMD111	TMD222	TMD333
Std. Pkg. ....	35	35	35
Wt. Pkg. ....	105 lbs.	115 lbs.	130 lbs.
List, each ....	\$1.55	\$1.70	\$1.95



Type TMD Condulet with gooseneck bracket and type WV Condulet.

Obround Covers are listed on pages Cross Reference Nos. CH30, CH31 and CH32. Obround Conduletto Fittings are listed on page Cross Reference No. CH184a. Obround Gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.  
(Cross Reference No. CH29a)



## OBROUND CONDULET COVERS

or Types A, B, BE, C, CO, D, DF, E, F, FE, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TJD, TL, TM, TR, U, UB and X Condulet Bodies

Furnished with Fastening Screws



### COMPOSITION COVERS WITH WIRE HOLES\*

Size of Cover.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5 or 6
Std. Pkg. Assorted..	200	100	50	20	10	5	5	5	5	5	5
1-wire Standard†	Cat. No. CF11 List, ea. \$ .20	CF21 \$ .30	CF31 \$ .50	CF41 \$1.00	CF51 \$1.10	CF61 \$1.20	CF71 \$1.60	CF81 \$1.60	CF91 \$2.50	CF1001 \$2.50	CF1401 \$4.00
1-wire Special†	Cat. No. CF118 List, ea. \$ .20	CF218 \$ .30	CF318 \$ .50	CF418 \$1.00	CF518 \$1.10	CF618 \$1.20	CF718 \$1.60	CF818 \$1.60	CF918 \$2.50	CF10018 \$2.50	Not made
2-wire	Cat. No. CF12 List, ea. \$ .20	CF22 \$ .30	CF32 \$ .50	CF42 \$1.00	CF52 \$1.10	CF62 \$1.20	CF72 \$1.60	CF82 \$1.60	CF92 \$2.50	CF1002 \$2.50	CF1402 \$4.00
3-wire	Cat. No. CF13 List, ea. \$ .20	CF23 \$ .30	CF33 \$ .50	CF43 \$1.00	CF53 \$1.10	CF63 \$1.20	CF73 \$1.60	CF83 \$1.60	CF93 \$2.50	CF1003 \$2.50	CF1403 \$4.00
4-wire	Cat. No. CF1400 List, ea. \$ .20	CF2400 \$ .30	CF3400 \$ .50	CF4400 \$1.00	CF5400 \$1.10	CF6400 \$1.20	CF7400 \$1.60	CF8400 \$1.60	CF9400 \$2.50	CF10400 \$2.50	CF14400 \$4.00
5-wire	Cat. No. Not made	CF2500 \$ .30	CF3500 \$ .50	CF4500 \$1.00	CF5500 \$1.10	CF6500 \$1.20	CF7500 \$1.60	CF8500 \$1.60	CF9500 \$2.50	CF10500 \$2.50	CF14500 \$4.00
6-wire	Cat. No. Not made	CF2600 \$ .30	CF3600 \$ .50	CF4600 \$1.00	CF5600 \$1.10	CF6600 \$1.20	CF7600 \$1.60	CF8600 \$1.60	CF9600 \$2.50	CF10600 \$2.50	CF14600 \$4.00
7-wire	Cat. No. Not made	Not made	CF3700 \$ .50	CF4700 \$1.00	CF5700 \$1.10	CF6700 \$1.20	CF7700 \$1.60	CF8700 \$1.60	CF9700 \$2.50	CF10700 \$2.50	CF14700 \$4.00
8-wire	Cat. No. Not made	Not made	CF3800 \$ .50	CF4800 \$1.00	CF5800 \$1.10	CF6800 \$1.20	CF7800 \$1.60	CF8800 \$1.60	CF9800 \$2.50	CF10800 \$2.50	CF14800 \$4.00
9-wire	Cat. No. Not made	Not made	CF3900 \$ .50	CF4900 \$1.00	CF5900 \$1.10	CF6900 \$1.20	CF7900 \$1.60	CF8900 \$1.60	CF9900 \$2.50	CF10900 \$2.50	CF14900 \$4.00
Blank	Cat. No. CF100 List, ea. \$ .20	CF200 \$ .30	CF300 \$ .50	CF400 \$1.00	CF500 \$1.10	CF600 \$1.20	CF700 \$1.60	CF800 \$1.60	CF900 \$2.50	CF1000 \$2.50	CF14000 \$4.00
Weight Std. Pkg....	40 lbs.	30 lbs.	20 lbs.	20 lbs.	18 lbs.	12 lbs.	18 lbs.	25 lbs.	30 lbs.	40 lbs.	50 lbs.



### OBROUND PORCELAIN COVERS WITH 1-WIRE HOLE AND 1/8 MALE NIPPLE

Size of Cover.....	1/2	3/4	1
For Drop	191	291	391
Cord and	200	100	50
Fixture Pull	55 lbs.	40 lbs.	30 lbs.
Switches	\$ .35	\$ .40	\$ .50

†Standard and special 1-wire hole covers differ only in diameter of wire hole; see schedule on page Cross Reference No. CH172. Standard 1-wire hole covers will always be furnished, unless order specifically calls for special 1-wire hole covers.

Obround covers are interchangeable on corresponding sizes of Condulet bodies with Obround openings. 2 1/2 and 3-inch Obround covers are interchangeable. 3 1/2 and 4-inch Obround covers are interchangeable.

Above composition Obround covers of the same size may be assorted to make up a standard package, regardless of style of cover.

Assortment specified on second page following applies to above Obround porcelain covers 191, 291 and 391.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

\*For diameter of wire holes in covers see page Cross Reference No. CH172. Obround gaskets are listed on page Cross Reference No. CH176.

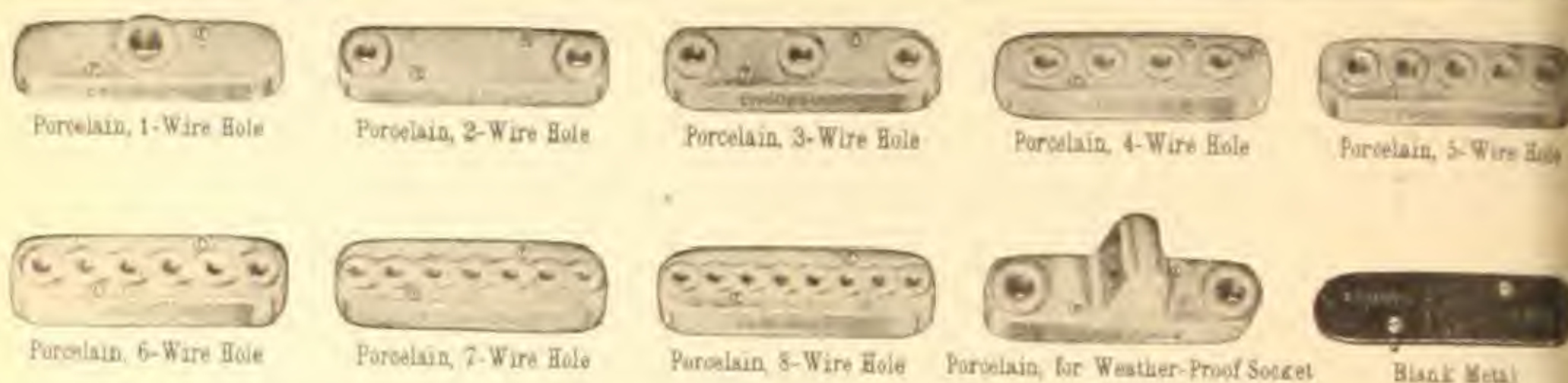
(Cross Reference No. CH30)



## CONDULET OBROUND COVERS

For Types A, B, BE, C, CO, D, DF, E, F, FE, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TJD, TL, TM, TR, U, UB AND X Condulet Bodies

Furnished with Fastening Screws



Size of Cover.....	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5 or 6
Std. Pkg. Assorted	200	100	50	20	10	5	5	5	5	5	5

## PORCELAIN COVERS WITH WIRE HOLES\*

1-wire Standard †	Cat. No.	11	21	31	41	51	61	71	81	91	101	1401
	List, ea.	\$ .10	\$ .15	\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
1-wire Special †	Cat. No.	11S	21S	31S	41S	51S	61S	71S	81S	91S	101S	Not made
	List, ea.	\$ .10	\$ .15	\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	
2-wire	Cat. No.	12	22	32	42	52	62	72	82	92	102	1402
	List, ea.	\$ .10	\$ .15	\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
3-wire	Cat. No.	13	23	33	43	53	63	73	83	93	103	1403
	List, ea.	\$ .10	\$ .15	\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
4-wire	Cat. No.	1400	2400	3400	4400	5400	6400	7400	8400	9400	10400	14400
	List, ea.	\$ .10	\$ .15	\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
5-wire	Cat. No.	Not made	2500	3500	4500	5500	6500	7500	8500	9500	10500	14500
	List, ea.		\$ .15	\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
6-wire	Cat. No.	Not made	2600	3600	4600	5600	6600	7600	8600	9600	10600	14600
	List, ea.		\$ .15	\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
7-wire	Cat. No.	Not made	Not made	3700	4700	5700	6700	7700	8700	9700	10700	14700
	List, ea.			\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
8-wire	Cat. No.	Not made	Not made	3800	4800	5800	6800	7800	8800	9800	10800	14800
	List, ea.			\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
9-wire	Cat. No.	Not made	Not made	3900	4900	5900	6900	7900	8900	9900	10900	14900
	List, ea.			\$ .25	\$ .36	\$ .48	\$ .60	\$ .80	\$ .80	\$ .90	\$ .90	\$2.00
For W. P. Socket	Cat. No.	14	24	34	†Standard and special 1-wire hole covers differ only in diameter of wire hole; see schedule on page Cross Reference No. CH172. Standard 1-wire hole covers will always be furnished, unless order specifically calls for special 1-wire hole covers.							
	List, ea.	\$ .16	\$ .25	\$ .40								
Weight Std. Pkg...		50 lbs.	35 lbs.	25 lbs.	25 lbs.	20 lbs.	15 lbs.	20 lbs.	20 lbs.	30 lbs.	30 lbs.	40 lbs.

## BLANK METAL COVERS—Black Enamel Finish









Sheet Steel	Cat. No.	100	200	300	400	500	600	700	800	900	1000	14000
	List, ea.	\$ .08	\$ .11	\$ .23	\$ .32	\$ .45	\$ .56	\$ .75	\$ .75	\$ .80	\$ .80	\$1.25
Weight Std. Pkg...		30 lbs.	15 lbs.	10 lbs.	10 lbs.	10 lbs.	5 lbs.	10 lbs.	10 lbs.	15 lbs.	15 lbs.	20 lbs.
Cast Iron (Flange)	Cat. No.	100f	200f	300f	400f	500f	600f	700f	800f	900f	1000f	14000f
	List, ea.	\$ .16	\$ .22	\$ .35	\$ .50	\$ .70	\$ .90	\$1.15	\$1.15	\$1.25	\$1.25	\$1.75
Weight Std. Pkg...		90 lbs.	60 lbs.	35 lbs.	25 lbs.	15 lbs.	10 lbs.	10 lbs.	15 lbs.	20 lbs.	25 lbs.	30 lbs.

\*For diameter of wire holes in covers, see page Cross Reference No. CH172. For finishes, assortments, and other important information, see notes on page Cross Reference No. CH32. Obround gaskets are listed on page Cross Reference No. CH176.

(Cross Reference No. CH31)



## OBROUND COVERS

Size of Cover . . . . .		1/2	3/4	1	1 1/4	1 1/2
Std. Pkg. Assorted . . . . .		200	100	50	20	10
METAL COVERS WITH NIPPLES—Black Enamel Finish						
 Metal, 1/8 Male Nipple	1/8 Male	Catalogue No. 15 List, each . . . . .	25 \$ .20	35 \$ .25	45 \$ .35	55 \$ .46
	1/8 Female	Catalogue No. 16 List, each . . . . .	26 \$ .20	36 \$ .25	46 \$ .35	56 \$ .46
 Metal, 1/4 Female Nipple	1/4 Male	Catalogue No. 113 List, each . . . . .	213 \$ .23	313 \$ .28	413 \$ .38	513 \$ .49
	1/4 Female	Catalogue No. 114 List, each . . . . .	214 \$ .23	314 \$ .28	414 \$ .38	514 \$ .49
 Metal, 3/8 Male Nipple	3/8 Male	Catalogue No. 17 List, each . . . . .	27 \$ .25	37 \$ .30	47 \$ .40	57 \$ .51
	3/8 Female	Catalogue No. 18 List, each . . . . .	28 \$ .25	38 \$ .30	48 \$ .40	58 \$ .51
 Metal, 1/2 Male Nipple	1/2 Male	Catalogue No. Not made List, each . . . . .	215 \$ .35	315 \$ .45	415 \$ .56	515 \$ .68
	1/2 Female	Catalogue No. Not made List, each . . . . .	216 \$ .35	316 \$ .45	416 \$ .56	516 \$ .68
Ship. Weight Std. Pkg.		40 lbs.	25 lbs.	20 lbs.	10 lbs.	10 lbs.
PORCELAIN COVERS WITH NIPPLES						
 Porcelain, 1/8 Male Nipple	1/8 Male	Catalogue No. 19 List, each . . . . .	29 \$ .25	39 \$ .30	49 \$ .43	59 \$ .58
	1/8 Female	Catalogue No. 110 List, each . . . . .	210 \$ .25	310 \$ .30	410 \$ .43	510 \$ .58
 Porcelain, 1/4 Female Nipple	1/4 Male	Catalogue No. 119 List, each . . . . .	219 \$ .30	319 \$ .35	419 \$ .48	519 \$ .63
	1/4 Female	Catalogue No. 120 List, each . . . . .	220 \$ .30	320 \$ .35	420 \$ .48	520 \$ .63
 Porcelain, 3/8 Male Nipple	3/8 Male	Catalogue No. 111 List, each . . . . .	211 \$ .35	311 \$ .41	411 \$ .53	511 \$ .68
	3/8 Female	Catalogue No. 112 List, each . . . . .	212 \$ .35	312 \$ .41	412 \$ .53	512 \$ .68
 Porcelain, 1/2 Female Nipple	1/2 Male	Catalogue No. 121 List, each . . . . .	221 \$ .40	321 \$ .46	421 \$ .58	521 \$ .73
	1/2 Female	Catalogue No. 122 List, each . . . . .	222 \$ .40	322 \$ .46	422 \$ .58	522 \$ .73
Ship. Weight Std. Pkg.		60 lbs.	40 lbs.	30 lbs.	30 lbs.	25 lbs.

Obround covers are interchangeable on corresponding sizes of Condulet bodies with Obround openings. 2 1/2 and 3-inch Obround covers are interchangeable. 3 1/2 and 4-inch Obround covers are interchangeable.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. For special plated finishes, brass and bronze covers with plain and special finishes, aluminum covers with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled, galvanized and porcelain Obround covers of the same size may be assorted to make up a standard package, regardless of style of cover. No other assortment is allowed. Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

Obround gaskets are listed on page Cross Reference No. CH172.  
(Cross Reference No. CH32)



## TYPE BNM CONDULET BODIES

## WITH DOUBLE OBOURND OPENINGS

Take 1/2-Inch Obround Conduletto Fittings or 1/2-Inch Obround Covers



## TYPE BNM CONDULET BODY—Black Enamel Finish

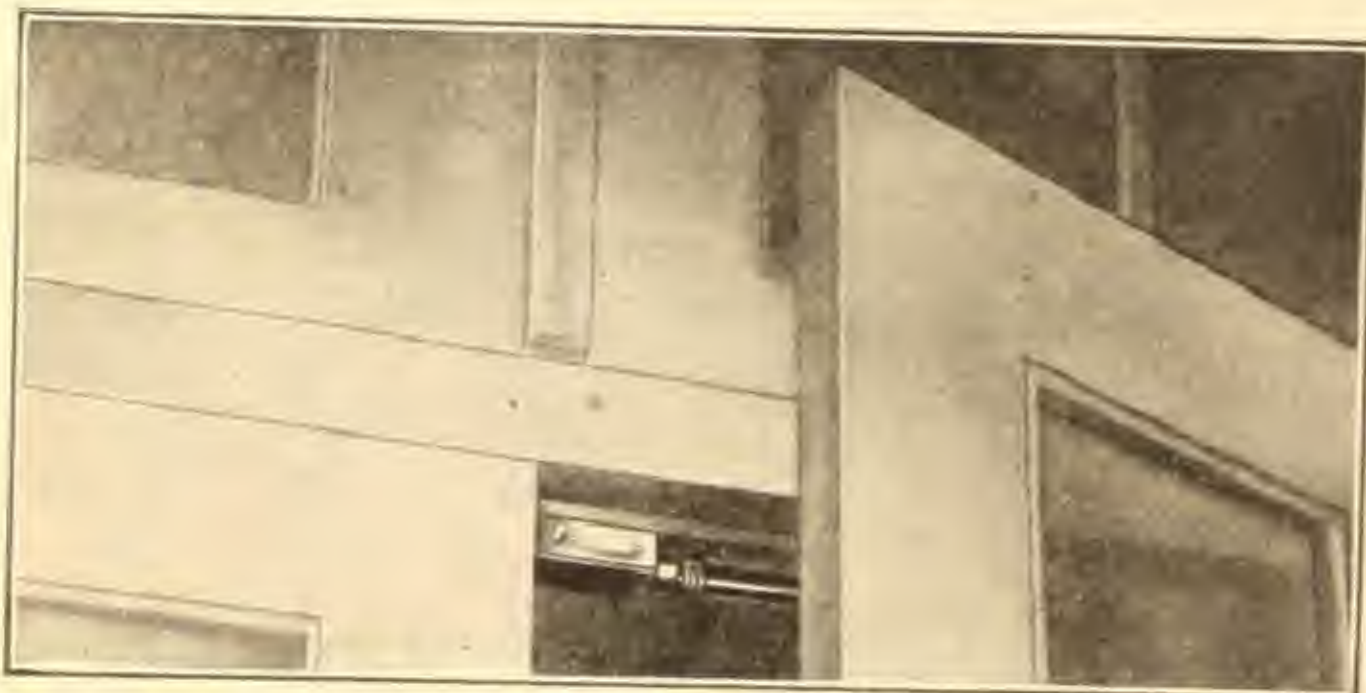
Size in inches .....	1/2
Catalog Number .....	BNM1
Standard Package .....	50
Shipping Weight Standard Pkg. ...	100 lbs.
List Price, each .....	\$1.15

Obround Conduletto fittings are listed on pages 184 and 185 of Condulet Catalog No. 1000.  
Obround covers are listed on pages 30, 31 and 32 of Condulet Catalog No. 1000.

## TYPES FG AND FGC CONDULET BODIES

## DOOR SWITCH CONDULET BODIES

Take the Following Door Switches: Arrow E 6550, 6551; Central Electric 300; Diamond H 601, 602;  
Perkins 2355, 2356



Type FG with Door Switch Installed

Condulets of the FG series are designed for installation in refrigerators, closets, lockers or wherever it is desired to open or close a circuit by the movement of a door.

Another use for these Condulets is where there is need of a reliable push button switch installation on a 125 or 250-volt circuit.

## TYPE FG AND FGC CONDULET BODIES—Black Enamel Finish

Catalog number indicates for which switch  
Condulet body is tapped

Arrow E  
6550, 6551

Central Elec.  
300

Diamond H  
601

Perkins  
2355, 2356



## TYPE FG CONDULET BODIES—For 1/2-Inch Conduit

Catalog Number ..	FG123	FG130	FG160	FG123
Standard Package	50	50	50	50
Wt. Std. Pkg. ...	90 lbs.	90 lbs.	90 lbs.	90 lbs.
List Price, each ..	\$ .80	\$ .80	\$ .80	\$ .80



## TYPE FGC CONDULET BODIES—For 1/2-Inch Conduit

Catalog Number ..	FGC123	FGC130	FGC160	FGC123
Standard Package	50	50	50	50
Wt. Std. Pkg. ...	100 lbs.	100 lbs.	100 lbs.	100 lbs.
List Price, each ..	\$ .90	\$ .90	\$ .90	\$ .90

Prices do not include switches for use with Condulet bodies of the FG series.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. Special metals and finishes are listed on page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

(Cross Reference No. CH32c)



# TYPES FS, FSA, FSC, FSL, FSR, FSLA, FSS, FSCC, FSCA, FSCT, FST AND FSX CONDULETS

## SHALLOW TYPE

or Single Push Button, Double Push Button or Flush Rotary Switches (Shallow); Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 Inches; Width, 2 3-4 Inches; Depth, 1 7-8 Inches. Furnished with Fastening Screws for Fittings



Type FS with 1-Wire Hole Porcelain Cover



Type FSR with Cover for Rectangular Plug Receptacle



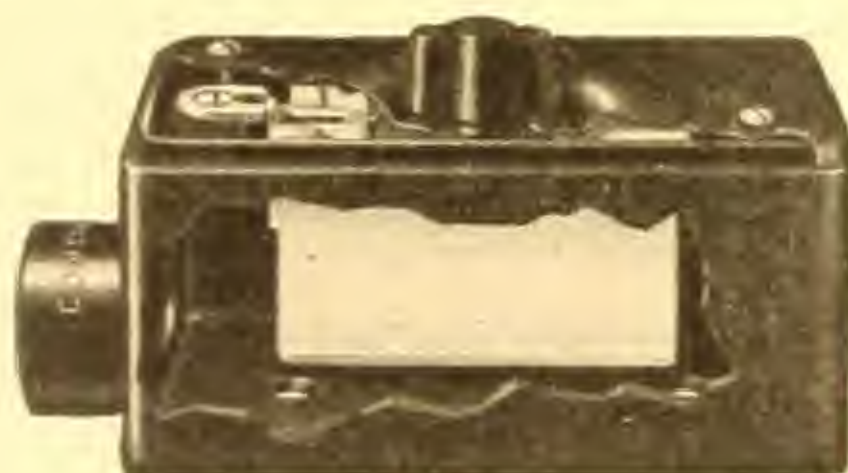
Type FSS with Cover for Single Push Button Switch



Type FSCA with Female Nipple Metal Cover



Type FSC with Male Nipple Metal Cover



Type FS with Cover for Flush Rotary Switch (Broken-away View, Showing Switch Mounted)



Type FSCC with 3-Wire Hole Porcelain Cover



Type FSL with Female Nipple Porcelain Cover



Type FSCT with Cover for Hubbell Polarity Plug Receptacle 5552



Type FST with Cover for Round Plug Receptacle



Type FSLA with Cover for Double Push Button Switch



Type FSA with Cover for Flush Rotary Switch



Type FSX with Blank Metal Cover

There is ample room around the mounted fitting for the passage of extra wires.

The rim of the Condulet body forms a rabbet, over which the cover fits, making a dust-proof joint.

There are two lines of metal covers for Condulet bodies of the FS series—one for surface mounting and the other for flush mounting. Porcelain covers for these Condulet bodies are suitable for either flush or surface mounting.

Switches and receptacles for above Condulets are enumerated on page Cross Reference No. CH41. Condulet bodies of the FS series are listed on pages Cross Reference Nos. CH39, CH40 and CH41. Covers for Condulet bodies of the FS series are listed on pages Cross Reference Nos. CH46 and CH47. Gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH38)




## TYPES FS, FSA, FSC, FSL AND FSR CONDULET BODIES

## SHALLOW TYPE


For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow);  
Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 Inches; Width, 2 3-4 Inches;  
Depth, 1 7-8 Inches. Furnished with Fastening Screws for Fittings


## TYPE FS CONDULET BODIES—Black Enamel Finish

	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	FS1	FS2	FS3
	Standard Package .....	75	50	25
	Shipping Weight Std. Pkg. .	165 lbs.	120 lbs.	65 lbs.
	List Price, each .....	\$ .65	\$ .75	\$ .85


## TYPE FSA CONDULET BODIES—Black Enamel Finish

	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	FSA1	FSA2	FSA3
	Standard Package .....	50	30	20
	Shipping Weight Std. Pkg. .	140 lbs.	75 lbs.	60 lbs.
	List Price, each .....	\$ .65	\$ .75	\$ .85


## TYPE FSC CONDULET BODIES—Black Enamel Finish

	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	FSC11	FSC22	FSC33
	Standard Package .....	75	50	25
	Shipping Weight Std. Pkg. .	175 lbs.	150 lbs.	90 lbs.
	List Price, each .....	\$ .75	\$ .90	\$1.10

## TYPE FSL CONDULET BODIES—Black Enamel Finish

	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	FSL11	FSL22	FSL33
	Standard Package .....	50	30	20
	Shipping Weight Std. Pkg. .	130 lbs.	80 lbs.	60 lbs.
	List Price, each .....	\$ .75	\$ .90	\$1.10

## TYPE FSR CONDULET BODIES—Black Enamel Finish

	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	FSR11	FSR22	FSR33
	Standard Package .....	50	30	20
	Shipping Weight Std. Pkg. .	130 lbs.	80 lbs.	60 lbs.
	List Price, each .....	\$ .75	\$ .90	\$1.10

Covers for above Condulet bodies are listed on pages Cross Reference CH46 and CH47.

Switches or receptacles for above Condulet bodies are enumerated on page Cross Reference No. CH41.  
For finishes and assortments see note on page Cross Reference No. CH41. Gasket is listed on page  
Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.  
(Cross Reference No. CH39)



# FSLA, FSS, FSCC, FSCA AND FSCT CONDULET BODIES

## SHALLOW TYPE

or Single Push Button, Double Push Button or Flush Rotary Switches (Shallow); Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 Inches; Width, 2 3-4 Inches; Depth, 1 7-8 Inches. Furnished with Fastening Screws for Fittings

### TYPE FSLA CONDULET BODIES—Black Enamel Finish



Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	FSLA11	FSLA22	FSLA33
Standard Package .....	50	30	20
Ship. Weight Std. Pkg. ....	130 lbs.	80 lbs.	60 lbs.
List Price, each .....	\$ .75	\$ .90	\$1.10

### TYPE FSS CONDULET BODIES—Black Enamel Finish



Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	FSS11	FSS22	FSS33
Standard Package .....	50	30	20
Ship. Weight Std. Pkg. ....	130 lbs.	80 lbs.	60 lbs.
List Price, each .....	\$ .75	\$ .90	\$1.10

### TYPE FSCC CONDULET BODIES—Black Enamel Finish



Size in inches .....	$\frac{1}{2}$ in. main $\frac{1}{2}$ inch branches	$\frac{3}{4}$ in. main $\frac{1}{2}$ inch branches	1 in. main $\frac{1}{2}$ inch branches
Catalogue Number .....	FSCC111	FSCC211	FSCC311
Standard Package .....	50	30	20
Ship. Weight Std. Pkg. ....	140 lbs.	90 lbs.	70 lbs.
List Price, each .....	\$1.00	\$1.20	1.45

### TYPE FSCA CONDULET BODIES—Black Enamel Finish



Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	FSCA111	FSCA222	FSCA333
Standard Package .....	50	30	20
Ship. Weight Std. Pkg. ....	140 lbs.	90 lbs.	70 lbs.
List Price, each .....	\$1.00	\$1.25	\$1.45

### TYPE FSCT CONDULET BODIES—Black Enamel Finish



Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	FSCT111	FSCT222	FSCT333
Standard Package .....	50	30	20
Ship. Weight Std. Pkg. ....	140 lbs.	90 lbs.	70 lbs.
List Price, each .....	\$1.00	\$1.25	\$1.45

Covers for above Condulet bodies are listed on pages Cross Reference Nos. CH46, and CH47. Switches or receptacles for above Condulet bodies are enumerated on page Cross Reference No. CH41. For finishes and assortments see note on page Cross Reference No. CH41. Gasket is listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH40)



## TYPES FST AND FSX CONDULET BODIES

## SHALLOW TYPE

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow);  
Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 Inches; Width, 2 3-4 Inches;  
Depth, 1 7-8 Inches. Furnished with Fastening Screws for Fittings

## TYPE FST CONDULET BODIES—Black Enamel Finish



Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	FST111	FST222	FST333
Standard Package .....	50	30	20
Shipping Weight Std. Pkg. .	140 lbs.	90 lbs.	70 lbs.
List Price, each .....	\$1.00	\$1.25	\$1.45

## TYPE FSX CONDULET BODIES—Black Enamel Finish



Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	FSX1111	FSX2222	FSX3333
Standard Package .....	50	30	20
Shipping Weight Std. Pkg. .	160 lbs.	100 lbs.	75 lbs.
List Price, each .....	\$1.20	\$1.50	\$1.70

Switches and receptacles suitable for the FS series of Condulet bodies are as follows:

Single Push Button Switches: PERKINS—2457, 2458, 2459, 2460, 2461, 2462, 2491, 2492, 2493, 2494.

Double Push Button Switches: ARROW E—6500, 6501, 6502, 6503. DIAMOND H—050, 060, 070, 080. G. E. CO.—68247, 68248, 68249, 68250. HART & HEGEMAN—2081, 2082, 2083, 2084. CUTTER—"S-F." MACHEN & MAYER—2000, 2001, 2002, 2003. KNOWLES—2971, 2972, 2973, 2974. PERKINS—2201, 2202, 2203, 2204. CUTLER-HAMMER CO.—7201, 7202, 7203.

Double Push Button Lock Switches: ARROW E—6504, 6505, 6506, 6507. DIAMOND H—055, 065, 075, 085. G. E. CO.—GE688, GE689, GE690, GE691. HART & HEGEMAN—2081, 2082, 2083, 2084. MACHEN & MAYER—2004, 2005, 2006, 2007, 2008. KNOWLES—12971, 12972, 12973, 12974. PERKINS—2295, 2296, 2297, 2298.

Double Push Button, Removable Mechanism, Switches: G. E. CO.—GE731, GE732, GE733. PERKINS—2519, 2520, 2521, 2522, 2523, 2524.

Double Push Button, Removable Mechanism, Lock Switches: G. E. CO.—GE684, GE685, GE686. PERKINS—2519, 2520, 2521, 2525, 2526, 2527.

Flush Rotary Switches: ARROW E—6250, 6251, 6252, 6253, 6254, 6255, 6256, 6257. DIAMOND H—0105, 0110, 0120, 0130, 0140, 0150, 0160. G. E. CO.—60468, 60469, 60470, 60473, 60475, 60476, 60477, 60478, 60479, 60480. HART & HEGEMAN—600, 601, 602, 603, 604, 2263. PERKINS—2205, 2206, 2207, 2208, 2209, 2210, 2224, 2325.

Flush Plug Receptacles: ARROW E—1064. MACHEN & MAYER—2042, 4355. PERKINS—281, 1363, 1708. HUBBELL—5547, 5552, 5579. TRUMBULL—1005, 1008. G. E. CO.—36817.

Removable Flush Wall Receptacles: G. E. CO.—GE692. PERKINS—2520, 2528.

Double Door Flush Receptacle: G. E. CO.—GE287.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Covers for above Condulet bodies are listed on pages Cross Reference Nos. CH46 and CH47. Gasket is listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH41)



# TYPES FS, FSC AND FSD CONDULET BODIES

## TWO-GANG, SHALLOW TYPE

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow), and Blank Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 5/8 Inches; Width, 4 9/32 Inches; Depth, 1 7/8 Inches. Furnished with Fastening Screws for Fittings



Two-Gang Type FS with Cover for Single Push Button Switches



Two-Gang Type FS with Cover for Flush Rotary Switches (Broken-away View, Showing Switches Mounted)



Two-Gang Type FS with Cover for Flush Rotary Switches



Two-Gang Type FSD with Blank Metal Cover



Two-Gang Type FSD with Cover for Double Push Button Switches

## TWO-GANG TYPE FS CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2 in. main	3/4 in. main	1 in. main
Catalogue Number .....	FS12	FS22	FS32
Standard Package .....	50	25	15
Shipping Weight Std. Pkg. .	140 lbs.	90 lbs.	50 lbs.
List Price, each .....	\$1.20	\$1.30	\$1.40

## TWO-GANG TYPE FSC CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2 in. mains	3/4 in. mains	1 in. mains
Catalogue Number .....	FSC112	FSC222	FSC332
Standard Package .....	50	25	15
Shipping Weight Std. Pkg. .	150 lbs.	100 lbs.	60 lbs.
List Price, each .....	\$1.30	\$1.40	\$1.55

## TWO-GANG TYPE FSD CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2 in. main 1/2 in. branches	3/4 in. main 1/2 in. branches	1 in. main 1/2 in. branches
Catalogue Number .....	FSD1112	FSD2112	FSD3112
Standard Package .....	50	25	15
Shipping Weight Std. Pkg. .	160 lbs.	110 lbs.	70 lbs.
List Price, each .....	\$1.45	\$1.55	\$1.65

Covers for above Condulet bodies are listed on page Cross Reference No. CH48. Switches for above Condulet bodies are enumerated on page Cross Reference No. CH41. For finishes and assortments, see note on page Cross Reference No. CH45. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH42)



## TYPES FS, FSC AND FSD CONDULET BODIES

## THREE-GANG, SHALLOW TYPE

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow); Bryant Heater Control Combination 398 (less Plate), and Blank Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 6 1/2 Inches; Width, 4 9/32 Inches; Depth, 1 7/8 Inches. Furnished with Fastening Screws for Fittings



Three-Gang Type FS with Crouse-Hinds Cover for Bryant Heater Control Combination 398



Three-Gang Type FS with Cover for Single Push Button Switches (Broken-away View, Showing Switches Mounted)



Three-Gang Type FS with Cover for Single Push Button Switches



Three-Gang Type FSC with Cover for Flush Rotary Switches



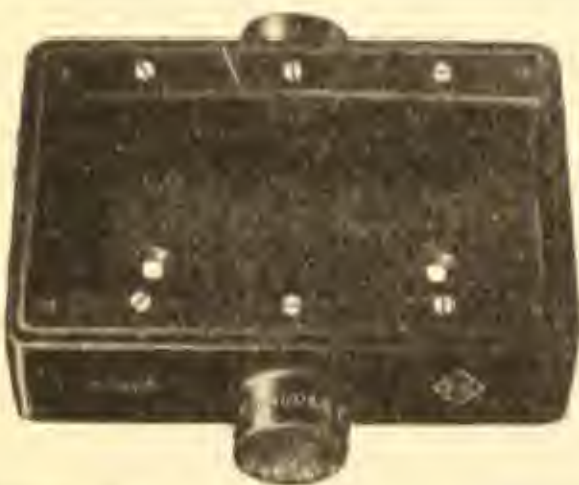
Three-Gang Type FSD with Cover for Double Push Button Switches



## THREE-GANG TYPE FS CONDULET BODIES

Black Enamel Finish

Size in inches . . . . .	1/2 in. main	3/4 in. main	1 in. main
Catalogue Number . . . .		FS23	FS33
Standard Package . . . .	Not	20	10
Ship. Wt. Std. Pkg. . . .	Practical	110 lbs.	60 lbs.
List Price, each . . . . .		\$1.80	\$1.95



## THREE-GANG TYPE FSC CONDULET BODIES

Black Enamel Finish

Size in inches . . . . .	1/2 in. mains	3/4 in. mains	1 in. mains
Catalogue Number . . . .		FSC223	FSC333
Standard Package . . . .	Not	20	10
Ship. Wt. Std. Pkg. . . .	Practical	115 lbs.	65 lbs.
List Price, each . . . . .		\$1.90	\$2.05



## THREE-GANG TYPE FSD CONDULET BODIES

Black Enamel Finish

Size in inches . . . . .	1/2 in. main 1 in. branches	3/4 in. main 1 in. branches	1 in. main 1 in. branches
Catalogue Number . . . .	FSD11113	FSD21113	FSD31113
Standard Package . . . .	35	20	10
Ship. Wt. Std. Pkg. . . .	190 lbs.	120 lbs.	65 lbs.
List Price, each . . . . .	\$1.95	\$2.15	\$2.30

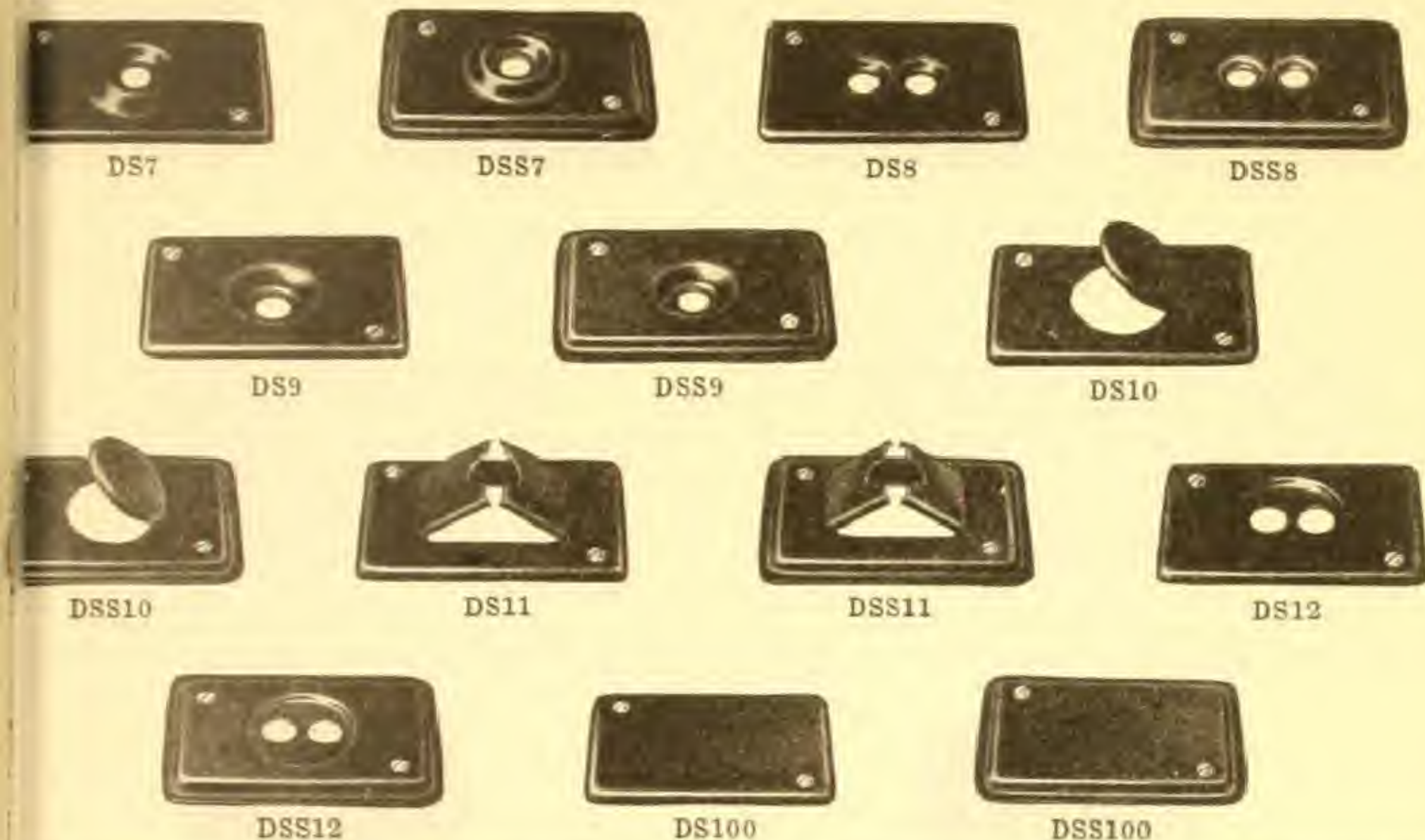
Covers for above Condulet bodies are listed on page Cross Reference No. CH48. Switches for above Condulet bodies are enumerated on page Cross Reference No. CH41. For finishes and assortments, see note on page Cross Reference No. CH45. Condulet reducers are listed on page Cross Reference No. CH171. (Cross Reference No. CH42)



## CONDULET COVERS

FOR FD AND FS SERIES OF CONDULET BODIES

Furnished with Fastening Screws



Style of Cover	Surface Type	Flush Type	Style of Cover	Surface Type	Flush Type
Standard Package.....	75	75	Standard Package.....	75	75

## COVERS FOR SWITCHES AND PLUG RECEPTACLES, AND BLANK METAL COVERS

Black Enamel Finish

Single Push Button Switch	Cat. No. List, ea...	DS7 \$ .10	DSS7 \$ .10	For Rectangular Plug Receptacle	Cat. No. List, ea...	DS11 \$ .80	DSS11 \$ .80
Double Push Button Switch	Cat. No. List, ea...	DS8 \$ .10	DSS8 \$ .10	For Hubbell Polarity Plug Receptacle 5552	Cat. No. List, ea...	DS12 \$ .20	DSS12 \$ .20
Flush Rotary Switch	Cat. No. List, ea...	DS9 \$ .10	DSS9 \$ .10	Blank Metal	Cat. No. List, ea...	DS100 \$ .10	DSS100 \$ .10
Round Plug Receptacle	Cat. No. List, ea...	DS10 \$ .60	DSS10 \$ .60	Cast Iron	Cat. No. List, ea...	DS100g \$ .25	DSS100g \$ .25
Shipping Weight Std. Pkg.		30 lbs.	35 lbs.	Shipping Weight Std. Pkg.		35 lbs.	40 lbs.

Upper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at the same price as black enamel finish. For special plated finishes, brass and bronze covers with plain and special finishes, see page Cross Reference No. CH182.

White enamel finish will be furnished on metal covers, if specifically ordered, at 50% increase over list price of black enamel finish.

Black enameled, galvanized and porcelain covers, listed on this and the following page, may be assorted to make up a standard package.

Condulet bodies that take above covers are listed on pages Cross Reference Nos. CH35, CH36, CH37, CH39, CH40 and CH41.

(Cross Reference No. CH46)



## CONDULET GANG COVERS

FOR TWO AND THREE-GANG TYPES FS, FSC AND FSD CONDULET BODIES

Furnished with Fastening Screws



S72



S82



SS92



SS1002

## COVERS FOR TWO-GANG CONDULET BODIES—Black Enamel Finish

Style of Cover		Surface Type	Flush Type	Style of Cover		Surface Type	Flush Type
Standard Package.....		50	50	Standard Package.....		50	50
For Single Push Button Switches	Cat. No..	S72	SS72	For Flush Rotary Switches	Cat. No..	S92	SS92
	List, ea...	\$ .20	\$ .20		List, ea...	\$ .20	\$ .20
For Double Push Button Switches	Cat. No..	S82	SS82	Blank Metal	Cat. No..	S1002	SS1002
	List, ea...	\$ .20	\$ .20		List, ea...	\$ .20	\$ .20
Shipping Weight Std. Pkg.		30 lbs.	35 lbs.	Shipping Weight Std. Pkg.		30 lbs.	35 lbs.



SS73



SS83



S93



SS7113



S1003

## COVERS FOR THREE-GANG CONDULET BODIES—Black Enamel Finish

Style of Cover		Surface Type	Flush Type	Style of Cover		Surface Type	Flush Type
Standard Package.....		35	35	Standard Package.....		35	35
For Single Push Button Switches	Cat. No..	S73	SS73	Crouse-Hinds Cover for Bryant Heater Control Combination 398 less Bryant Plate	Cat. No..	S7113	SS7113
	List, ea...	\$ .40	\$ .40		List, ea...	\$1.45	\$1.45
For Double Push Button Switches	Cat. No..	S83	SS83	Blank Metal	Cat. No..	S1003	SS1003
	List, ea...	\$ .40	\$ .40		List, ea...	\$ .40	\$ .40
For Flush Rotary Switches	Cat. No..	S93	SS93	Shipping Weight Std. Pkg.		40 lbs.	45 lbs.
Shipping Weight Std. Pkg.		30 lbs.	35 lbs.				

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. For special plated finishes, brass and bronze covers with plain and special finishes, see page Cross Reference No. CH182.

White enamel finish will be furnished on metal covers, if specifically ordered, at 50% increase over list price of black enamel finish.

All black enameled and galvanized covers for Two-Gang FS series Condulet bodies may be assorted to make up a standard package.

All black enameled and galvanized covers for Three-Gang FS series Condulet bodies may be assorted to make up a standard package.

Condulet bodies that take Three-gang Covers are listed on page Cross Reference No. CH43.

(Cross Reference No. CH43)



## TYPES FH AND FHF CONDULET BODIES

### FOR CONTROL OF HEATING DEVICES

Type FH is furnished with Crouse-Hinds Receptacle C337G, Adjustable Bar for Round Base Switch or Plug Receptacle and all necessary Fastening Screws

Type FHF is furnished with Pilot Lamp Receptacle, Universal Cut-out Fastening Plate, Adapting Rings and Adjustable Bars for Switch and Attachment Plug Receptacle, Jewel in Cover and all necessary Bolts and Screws



Type FH  
Showing Snap Switch, Flush Plug Receptacle,  
Cover DS10, Crouse-Hinds Receptacle C337G  
with Guard and Incandescent  
Lamp Mounted



Type FHF  
Showing Snap Switch, Cut-out, Incandescent Lamp  
and Attachment Plug Receptacle Mounted  
(Broken-away View)

### TYPE FH CONDULET BODIES—Black Enamel Finish



Form	Size in inches . . . . .	1/2	3/4	1
		Catalogue Number..	Catalogue Number..	Catalogue Number..
10		FH110	FH219	FH310
		Standard Package..	15	15
		Ship. Wt. Std. Pkg..	95 lbs.	100 lbs.
		List Price, each . . . .	\$2.50	\$2.60
20		FH120	FH220	FH320
		Standard Package..	15	15
		Ship. Wt. Std. Pkg..	120 lbs.	125 lbs.
		List Price, each . . . .	\$3.00	\$3.10

### TYPE FHF CONDULET BODIES—Black Enamel Finish



Size in inches . . . . .	1/2	3/4
Catalogue Number..	FHF120	FHF220
Standard Package..	15	15
Ship. Wt. Std. Pkg..	130 lbs.	130 lbs.
List Price, each . . . . .	\$4.65	\$4.75

The adjustable bars and adapting rings furnished with each Condulet permit the proper mounting of any switch or Form 5 or Form 10 (or in case of type FHF Condulet, any Form 20) attachment plug receptacle enumerated on pages Cross Reference Nos. CH62 and CH63.

The universal cut-out fastening plate, furnished with each type FHF Condulet, takes any of the following 2-wire, 30 ampere, 250 volt cartridge, or 2-wire, 30 ampere, 125 volt, plug fuse cut-outs:

AYANT—(Cartridge) 1917, (Plug) 62965. D. & W.—(Cartridge) 91102. G. E. CO.—(Cartridge) 34367, (Plug) 62965. NOARK—(Cartridge) 3327. PAISTE—(Cartridge) 72965, (Plug) 2965. SHAWMUT—(Cartridge) 2077. TRUMBULL—(Cartridge) 29653, (Plug) 2965. WEBER—(Plug) 62965. UNION—(Cartridge) 2010.

Type FHF Condulets are designed to take style H (bulb S9) lamp.

Type FH Condulet bodies take covers DS7, DS8, DS9, DS10, DS11 and DS12, listed on page Cross Reference No. CH46. Receptacle C337G is listed separately on page Cross Reference No. CH190. Condulet reducers are listed on page 171.

Finishes and assortments, see note on page Cross Reference No. CH57.

(Cross Reference No. CH55a)



## TYPES G AND GA CONDULET BODIES

Take Round Covers; 5, 10 or 20 Ampere Round Base Switches,  
or Round Base Fittings

Furnished with Adjustable Bar and all necessary Fastening Screws



Type G  
Showing Snap Switch Mounted  
(Broken-away View Illustrating use of Adjustable Bar  
in Fastening Fitting or Cover to a Condulet Body  
of the G and H Series)

Condulet bodies of the G and H series are so designed that covers, switches or fittings are fastened to them by means of an adjustable bar and two screws. The adjustable bar permits switch or fitting to be mounted in any desired position.

A gasket may be used between cover or fitting and Condulet body.

Gaskets are not furnished with Condulet bodies, and if desired must be ordered separately.

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on pages 62\* and 63\*. The dimensions of these Condulet bodies are scheduled on page 56\*.



Type G



Type GA

Size	TYPE G BODIES			Black Enamel Finish	Size	TYPE GA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	G151	G1101	G1201	Catalogue Number.	1/2-inch	GA151	GA1101	GA1201
	100	75	50	Standard Package..		100	75	50
	110 lbs.	90 lbs.	75 lbs.	Ship. Wt. Std. Pkg..		120 lbs.	100 lbs.	80 lbs.
	\$ .55	\$ .65	\$ .90	List Price, each..		\$ .75	\$ .85	\$1.10
3/4-inch	G252	G2102	G2202	Catalogue Number.	3/4-inch	GA252	GA2102	GA2202
	50	25	25	Standard Package..		50	25	25
	75 lbs.	55 lbs.	60 lbs.	Ship. Wt. Std. Pkg..		80 lbs.	60 lbs.	65 lbs.
	\$ .65	\$ .80	\$ .95	List Price, each..		\$ .85	\$1.00	\$1.20
1-inch	G353	G3103	G3203	Catalogue Number.	1-inch	GA353	GA3103	GA3203
	25	25	25	Standard Package..		25	25	25
	60 lbs.	65 lbs.	70 lbs.	Ship. Wt. Std. Pkg..		65 lbs.	70 lbs.	75 lbs.
	\$ .90	\$1.00	\$1.20	List Price, each..		\$1.10	\$1.20	\$1.50

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

Switches and fittings for above Condulet bodies are enumerated on pages Cross Reference Nos. CH62 and CH63.

Gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

Covers for Condulet bodies of the G and H series are listed on page Cross Reference No. CH61.

(Cross Reference No. CH57)



# TYPES GL, GLA, GT AND GTA CONDULET BODIES

Take Round Covers; 5, 10 or 20 Ampere Round Base Switches,  
or Round Base Fittings

Furnished with Adjustable Bar and all necessary Fastening Screws



Type GL



Type GLA

Size	TYPE GL BODIES			Black Enamel Finish	Size	TYPE GLA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	GL151 100 110 lbs. \$ .60	GL1101 75 100 lbs. \$ .70	GL1201 50 80 lbs. \$ .95	...Catalogue No... Standard Package. Weight Std. Pkg. List Price, each..	1/2-inch	GLA151 100 130 lbs. \$ .75	GLA1101 75 110 lbs. \$ .85	GLA1201 50 90 lbs. \$1.10
3/4-inch	GL252 50 75 lbs. \$ .70	GL2102 25 55 lbs. \$ .85	GL2202 25 60 lbs. \$1.05	...Catalogue No... Standard Package. Weight Std. Pkg. List Price, each..	3/4-inch	GLA252 50 95 lbs. \$ .85	GLA2102 25 60 lbs. \$1.00	GLA2202 25 65 lbs. \$1.20
1-inch	GL353 25 60 lbs. \$ .95	GL3103 25 65 lbs. \$1.05	GL3203 25 75 lbs. \$1.35	...Catalogue No... Standard Package. Weight Std. Pkg. List Price, each..	1-inch	GLA353 25 60 lbs. \$1.10	GLA3103 25 65 lbs. \$1.20	GLA3203 25 60 lbs. \$1.50



Type GT



Type GTA

Size	TYPE GT BODIES			Black Enamel Finish	Size	TYPE GTA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	GT151 100 110 lbs. \$ .75	GT1101 75 100 lbs. \$ .85	GT1201 50 80 lbs. \$1.10	...Catalogue No... Standard Package. Weight Std. Pkg. List Price, each..	1/2-inch	GTA151 100 160 lbs. \$ .90	GTA1101 75 120 lbs. \$1.00	GTA1201 50 100 lbs. \$1.25
3/4-inch	GT252 50 75 lbs. \$ .85	GT2102 25 55 lbs. \$1.00	GT2202 25 60 lbs. \$1.20	...Catalogue No... Standard Package. Weight Std. Pkg. List Price, each..	3/4-inch	GTA252 50 100 lbs. \$1.00	GTA2102 25 60 lbs. \$1.15	GTA2202 25 65 lbs. \$1.40
1-inch	GT353 25 60 lbs. \$1.10	GT3103 25 65 lbs. \$1.20	GT3203 25 75 lbs. \$1.50	...Catalogue No... Standard Package. Weight Std. Pkg. List Price, each..	1-inch	GTA353 25 60 lbs. \$1.35	GTA3103 25 65 lbs. \$1.45	GTA3203 25 75 lbs. \$1.80

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on pages Cross Reference Nos. CH62 and CH63.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

Switches or fittings for above Condulet bodies, are enumerated on pages Cross Reference No. CH62 and HC63.

Gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

Covers for Condulet bodies of the G and H series are listed on page Cross Reference No. CH61.

(Cross Reference No. CH58)



## TYPES GX, GXA, H AND HA CONDULET BODIES

Take Round Covers; 5, 10 or 20-Ampere Round Base Switches,  
or Round Base Fittings

Furnished with Adjustable Bar and all necessary Fastening Screws



Type GX



Type GXA

Size	TYPE GX BODIES			Black Enamel Finish	Size	TYPE GXA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	GX151	GX1101	GX1201	...Catalogue No...	1/2-inch	GXA151	GXA1101	GXA1201
	100	75	50	...Standard Pkg...		100	75	50
	130 lbs.	120 lbs.	100 lbs.	Ship. Wt. Std. Pkg.		180 lbs.	150 lbs.	110 lbs.
	\$ .90	\$1.00	\$1.25	...List Price, each...		\$1.05	\$1.15	\$1.40
3/4-inch	GX252	GX2102	GX2202	...Catalogue No...	3/4-inch	GXA252	GXA2102	GXA2202
	50	25	25	...Standard Pkg...		50	25	25
	85 lbs.	70 lbs.	80 lbs.	Ship. Wt. Std. Pkg.		110 lbs.	75 lbs.	80 lbs.
	\$1.00	\$1.15	\$1.40	...List Price, each...		\$1.15	\$1.30	\$1.60
1-inch	GX353	GX3103	GX3203	...Catalogue No...	1-inch	GXA353	GXA3103	GXA3203
	25	25	25	...Standard Pkg...		25	25	25
	70 lbs.	80 lbs.	95 lbs.	Ship. Wt. Std. Pkg.		75 lbs.	80 lbs.	85 lbs.
	\$1.35	\$1.45	\$1.80	...List Price, each...		\$1.55	\$1.65	\$2.00



Type H



Type HA

Size	TYPE H BODIES			Black Enamel Finish	Size	TYPE HA BODIES		
	Form 5	Form 10	Form 20			Form 5	Form 10	Form 20
1/2-inch	H15	H110	H120	...Catalogue No...	1/2-inch	HA15	HA110	HA120
	100	75	50	...Standard Pkg...		100	75	50
	100 lbs.	85 lbs.	80 lbs.	Ship. Wt. Std. Pkg.		110 lbs.	95 lbs.	95 lbs.
	\$ .45	\$ .55	\$ .80	...List Price, each...		\$ .50	\$ .60	\$ .85
3/4-inch	H25	H210	H220	...Catalogue No...	3/4-inch	HA25	HA210	HA220
	50	25	25	...Standard Pkg...		50	25	25
	70 lbs.	50 lbs.	60 lbs.	Ship. Wt. Std. Pkg.		80 lbs.	60 lbs.	65 lbs.
	\$ .55	\$ .70	\$ .85	...List Price, each...		\$ .60	\$ .75	\$ .90
1-inch	H35	H310	H320	...Catalogue No...	1-inch	HA35	HA310	HA320
	25	25	25	...Standard Pkg...		25	25	25
	50 lbs.	60 lbs.	70 lbs.	Ship. Wt. Std. Pkg.		60 lbs.	65 lbs.	75 lbs.
	\$ .80	\$ .90	\$1.10	...List Price, each...		\$ .85	\$ .95	\$1.20

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on pages Cross Reference Nos. CH62 and CH63.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

Switches and fittings for above Condulet bodies are enumerated on pages Cross Reference Nos. CH62 and CH63.

Gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

Covers for Condulet bodies of the G and H series are listed on page Cross Reference No. CH61.

(Cross Reference No. CH59)



# TYPES HH, HHC, HLA AND GXB CONDULET BODIES

Take Round Covers; 5, 10 or 20 Ampere Round Base Switches, or Round Base Fittings—  
Except Type GXB which is made in Form 10 Only

Furnished with Adjustable Bar and All necessary Fastening Screws



Type HH



Type HHC


TYPE HH BODIES				Black Enamel Finish	TYPE HHC BODIES			
Size	Form 5	Form 10	Form 20		Size	Form 5	Form 10	Form 20
1/2-inch	HH151	HH1101	HH1201	...Catalogue No...	1/2-inch	HHC151	HHC1101	HHC1201
	100	75	50	...Standard Pkg...		100	75	50
	130 lbs.	110 lbs.	100 lbs.	Ship. Wt. Std. Pkg.		160 lbs.	140 lbs.	110 lbs.
	\$ .55	\$ .65	\$ .90	...List Price, each...		\$ .75	\$ .85	\$1.10
3/4-inch	HH252	HH2102	HH2202	...Catalogue No...	3/4-inch	HHC252	HHC2102	HHC2202
	50	25	25	...Standard Pkg...		50	25	25
	95 lbs.	65 lbs.	75 lbs.	Ship. Wt. Std. Pkg.		100 lbs.	70 lbs.	85 lbs.
	\$ .65	\$ .80	\$ .95	...List Price, each...		\$ .85	\$1.00	\$1.20
1-inch	HH353	HH3103	HH3203	...Catalogue No...	1-inch	HHC353	HHC3103	HHC3203
	25	25	25	...Standard Pkg...		25	25	25
	65 lbs.	70 lbs.	75 lbs.	Ship. Wt. Std. Pkg.		75 lbs.	80 lbs.	90 lbs.
	\$ .90	\$1.00	\$1.20	...List Price, each...		\$1.10	\$1.20	\$1.50



Type HLA



Type GXB

TYPE HLA BODIES				Black Enamel Finish	TYPE GXB BODIES			
Size	Form 5	Form 10	Form 20		Size	Form 10	Size	Form 10
1/2-inch	HLA151	HLA1101	HLA1201	...Catalogue No...	All Hubs 1/2-inch	GXB1101	Back Hub 3/4-inch	GXB1102
	100	75	50	...Standard Pkg...		75	Side Hubs 1/2-inch	75
	130 lbs.	110 lbs.	100 lbs.	Ship. Wt. Std. Pkg.		270 lbs.		290 lbs.
	\$ .60	\$ .70	\$ .95	...List Price, each...		\$1.50		\$1.60
3/4-inch	HLA252	HLA2102	HLA2202	...Catalogue No...	 <p>Combination of type GXB and type E Condulets, forming an Electrolier.</p>			
	50	25	25	...Standard Pkg...				
	95 lbs.	65 lbs.	75 lbs.	Ship. Wt. Std. Pkg.				
	\$ .70	\$ .85	\$1.05	...List Price, each...				
1-inch	HLA353	HLA3103	HLA3203	...Catalogue No...				
	25	25	25	...Standard Pkg...				
	65 lbs.	70 lbs.	75 lbs.	Ship. Wt. Std. Pkg.				
	\$ .95	\$1.05	\$1.35	...List Price, each...				

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on pages Cross Reference Nos. CH62 and CH63.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

Switches or fittings for above Condulet bodies are enumerated on pages Cross Reference Nos. CH62 and CH63.

Gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

Covers for Condulet bodies of the G and H series are listed on page Cross Reference No. CH61.

(Cross Reference No. CH60)



## CONDULET COVERS

### FOR G AND H SERIES OF CONDULET BODIES

Furnished with Fastening Screws



Porcelain, 1-Wire Hole



Porcelain, 4-Wire Hole

Size of Cover.....	For Form 5 or Form 10 Bodies	For Form 20 Bodies	Size of Cover.....	For Form 5 or Form 10 Bodies	For Form 20 Bodies
Std. Pkg. Assorted..	100	50	Std. Pkg. Assorted..	100	50

#### PORCELAIN COVERS WITH WIRE HOLES

1-wire	Cat. No....	5101	201	3-wire	Cat. No....	5103	203
	List, each..	\$ .10	\$ .25		List, each..	\$ .10	\$ .25
2-wire	Cat. No....	5102	202	4-wire	Cat. No....	510400	20400
	List, each..	\$ .10	\$ .25		List, each..	\$ .10	\$ .25
Weight Std. Pkg....		45 lbs.	60 lbs.	Weight Std. Pkg....		45 lbs.	60 lbs.



Metal, Male Nipple



Metal, Female Nipple

#### METAL COVERS WITH NIPPLES—Black Enamel Finish

1/8" Male	Cat. No....	5105	205	3/8" Male	Cat. No....	5107	207
	List, each..	\$ .20	\$ .35		List, each..	\$ .25	\$ .40
1/8" Female	Cat. No....	5106	206	3/8" Female	Cat. No....	5108	208
	List, each..	\$ .20	\$ .35		List, each..	\$ .25	\$ .40
1/4" Male	Cat. No....	51013	2013	1/2" Male	Cat. No....	51015	2015
	List, each..	\$ .23	\$ .38		List, each..	\$ .30	\$ .45
1/4" Female	Cat. No....	51014	2014	1/2" Female	Cat. No....	51016	2016
	List, each..	\$ .23	\$ .38		List, each..	\$ .30	\$ .45
Weight Std. Pkg....		30 lbs.	35 lbs.	Weight Std. Pkg....		25 lbs.	30 lbs.



Porcelain, Male Nipple



Porcelain, Female Nipple

#### PORCELAIN COVERS WITH NIPPLES

1/8" Male	Cat. No....	5109	209	3/8" Male	Cat. No....	51011	2011
	List, each..	\$ .25	\$ .43		List, each..	\$ .35	\$ .53
1/8" Female	Cat. No....	51010	2010	3/8" Female	Cat. No....	51012	2012
	List, each..	\$ .25	\$ .43		List, each..	\$ .35	\$ .53
1/4" Male	Cat. No....	51019	2019	1/2" Male	Cat. No....	51021	2021
	List, each..	\$ .30	\$ .48		List, each..	\$ .40	\$ .58
1/4" Female	Cat. No....	51020	2020	1/2" Female	Cat. No....	51022	2022
	List, each..	\$ .30	\$ .48		List, each..	\$ .40	\$ .58
Weight Std. Pkg....		60 lbs.	55 lbs.	Weight Std. Pkg....		60 lbs.	55 lbs.



Blank Metal

#### BLANK METAL COVERS—Black Enamel Finish

For Form 5 or Form 10 Bodies	Sheet Steel	Cast Iron	Style of Cover	For Form 20 Bodies	Sheet Steel	Cast Iron
	51000	51000g	Catalogue Number..		2000	2000g
	100	100	..Standard Package..		50	50
	20 lbs.	20 lbs.	..Weight Std. Pkg..		20 lbs.	20 lbs.
	\$ .08	\$ .16	..... List, each.....		\$ .23	\$ .30

The same covers fit both Form 5 and Form 10 Condulet bodies, and these covers are interchangeable on any Form 5 or Form 10 Condulet body of the G and H series.

Covers for Form 20 Condulet bodies are interchangeable on any Form 20 Condulet body of the G and H series.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. For special plated finishes, brass and bronze covers with plain and special finishes, aluminum covers with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled, galvanized and porcelain covers of the same size may be assorted to make up a standard package, regardless of style of cover. No other assortment of covers only is allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies.

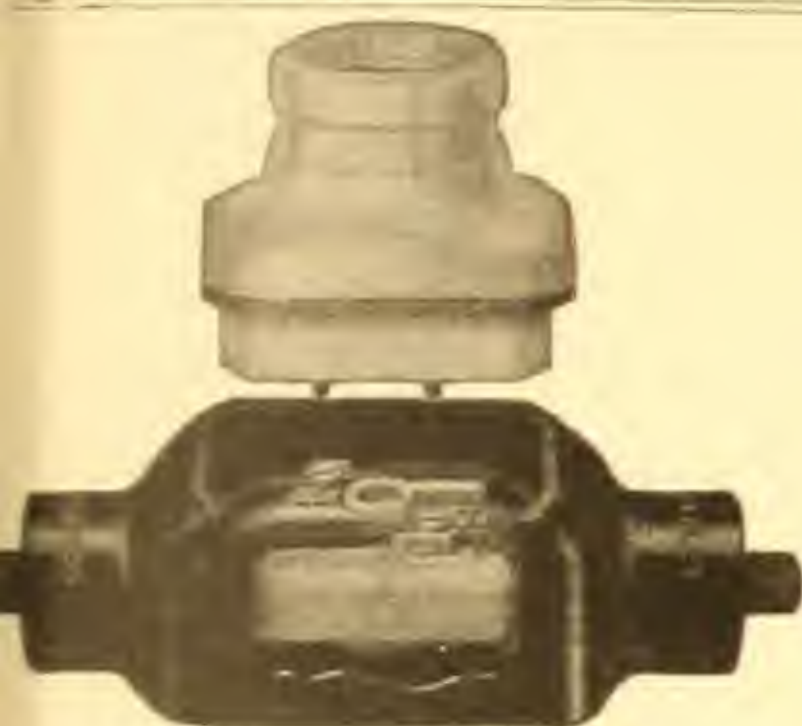
Gaskets are listed on page Cross Reference No. CH176. For sizes of wire holes in covers, see page Cross Reference No. CH172.

(Cross Reference No. CH61)



## TYPES J, JA AND JB CONDULET BODIES

Take Norbitt Conduletto Fittings and Blank Metal Cover



Type J

Showing Norbitt Conduletto Receptacle with Shade Holder Groove Mounted (Broken-away and Exploded View)

Condulet bodies of the J and K series are so designed that the bases of Norbitt Conduletto fittings or blank metal covers fasten to them by means of a single screw.

The cap of the Norbitt Conduletto Hubbell plug receptacle is secured to its base by a single center screw.

The cap of a Norbitt Conduletto receptacle or rosette is secured to its base by two screws, which also complete the electrical connection.

A gasket is furnished with each Norbitt Conduletto fitting and blank metal cover, and makes the installation weatherproof.



### TYPE J CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	J11	J22	J33
Standard Package.....	200	100	50
Shipping Weight Std. Pkg.....	240 lbs.	150 lbs.	80 lbs.
List Price, each.....	\$ .60	\$ .75	\$1.05



### TYPE JA CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	JA11	JA22	JA33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.....	130 lbs.	110 lbs.	80 lbs.
List Price, each.....	\$ .70	\$ .85	\$1.15



### TYPE JB CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	JB11	JB22	JB33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.....	140 lbs.	120 lbs.	90 lbs.
List Price, each.....	\$ .70	\$ .85	\$1.15

Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangeable on all Condulet bodies of the J and K series.

Upper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.






Norbitt Conduletto fittings are listed on page Cross Reference No. CH186a. Blank metal cover is listed on page Cross Reference No. CH67. Gasket for Norbitt Conduletto fittings and blank metal cover are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH66)



## TYPES JL, JT, JU, JX AND K CONDULET BODIES

Take Norbitt Conduletto Fittings and Blank Metal Cover

	TYPE JL CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	JL11	JL22	JL33
	Standard Package .....	100	75	50
	Shipping Weight Std. Pkg.	140 lbs.	120 lbs.	90 lbs.
	TYPE JT CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	JT111	JT222	JT333
	Standard Package .....	100	75	50
	Shipping Weight Std. Pkg.	150 lbs.	130 lbs.	100 lbs.
	TYPE JU CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	JU11	JU22	JU33
	Standard Package .....	100	75	50
	Shipping Weight Std. Pkg.	160 lbs.	140 lbs.	110 lbs.
	TYPE JX CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	JX1111	JX2222	JX3333
	Standard Package .....	100	75	50
	Shipping Weight Std. Pkg.	180 lbs.	140 lbs.	120 lbs.
	TYPE K CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	K1	K2	K3
	Standard Package .....	100	75	50
	Shipping Weight Std. Pkg.	100 lbs.	85 lbs.	70 lbs.
	List Price, each .....	\$ .50	\$ .59	\$ .95

Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangeable on all Condulet bodies of the J and K series.

Proper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Norbitt Conduletto fittings are listed on page Cross Reference No. CH186a. Blank metal cover is listed on following page. Gasket for Norbitt Conduletto fittings and blank metal cover is listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH66)



## TYPES KA, KB, KC AND KD CONDULET BODIES

Take Norbitt Conduletto Fittings and Blank Metal Cover



### TYPE KA CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	KA1	KA2	KA3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	110 lbs.	90 lbs.	75 lbs.
List Price, each.....	\$ .60	\$ .75	\$1.05



### TYPE KB CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	KB1	KB2	KB3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	110 lbs.	90 lbs.	75 lbs.
List Price, each.....	\$ .60	\$ .75	\$1.05



### TYPE KC CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	KC1	KC2	KC3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	160 lbs.	125 lbs.	100 lbs.
List Price, each.....	\$ .60	\$ .75	\$1.05



### TYPE KD CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	KD1	KD2	KD3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	160 lbs.	125 lbs.	100 lbs.
List Price, each.....	\$ .60	\$ .75	\$1.05



### BLANK METAL COVER—Cast Iron

For 1-2, 3-4 and 1-inch Condulet Bodies of the J and K Series

Catalogue Number.....	J100	This blank metal cover is furnished with gasket and fastening screw.
Standard Package.....	200	
Shipping Weight Std. Pkg..	90 lbs.	
List Price, each.....	\$ .30	

Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangeable on all Condulet bodies of the J and K series.

Proper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for Condulet bodies and blank metal cover, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies and all galvanized finish on blank metal cover will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies and blank metal cover with plain and special finishes, aluminum Condulet bodies and blank metal cover with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment of Condulet bodies is allowed.

Black enameled and galvanized blank metal covers may be assorted to make up a standard package. No other assortment of covers is allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

Norbitt Conduletto fittings are listed on page Cross Reference No. CH186a.

Gasket for Norbitt Conduletto fittings and blank metal cover is listed separately on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH67)

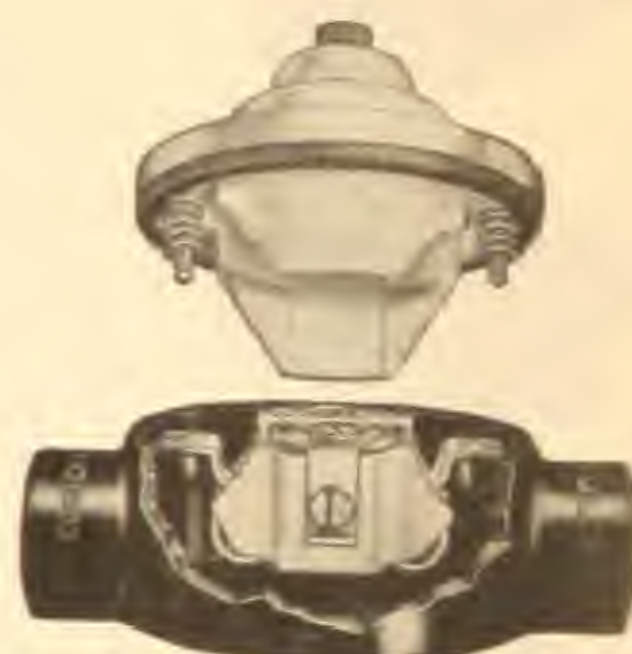


# TYPES RJ AND RJA CONDULET BODIES WITH ELLIPTICAL OPENINGS

Take Elliptical Conduletto Fittings and Elliptical Covers



Type RJ  
Showing Elliptical Conduletto Receptacle  
(Broken-away and Exploded View)



Type RJ  
Showing Elliptical Conduletto Rosette  
(Broken-away and Exploded View)

Condulet bodies with elliptical openings are so designed that elliptical Conduletto fittings and elliptical covers fasten to them by means of two screws which are always accessible. These two screws secure both cap and base of an elliptical Conduletto fitting to the Condulet body. Ample space is provided in the Condulet body for the unobstructed passage of extra wires. A gasket is furnished with each elliptical Conduletto fitting, and makes the installation weatherproof. Gaskets are not furnished with elliptical covers, and if desired must be ordered separately.



## TYPE RJ CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	RJ11	RJ22	RJ33
Standard Package.....	200	100	50
Shipping Weight Std. Pkg.....	240 lbs.	130 lbs.	80 lbs.
List Price, each .....	\$ .50	\$ .60	\$ .90



## TYPE RJA CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	RJA11	RJA22	RJA33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.....	140 lbs.	110 lbs.	85 lbs.
List Price, each .....	\$ .60	\$ .70	\$1.00

Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Elliptical Conduletto fittings are listed on page Cross Reference No. CH188a. Elliptical covers are listed on page Cross Reference No. CH73. Elliptical gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH69)



# YPES RJB, RJD, RJF, RJK AND RJL CONDULET BODIES

## WITH ELLIPTICAL OPENINGS

Take Elliptical Conduletto Fittings and Elliptical Covers



### TYPE RJB CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	RJB11	RJB22	RJB33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	150 lbs.	120 lbs.	90 lbs.
List Price, each .....	\$ .70	\$ .80	\$ .90



### TYPE RJD CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	RJD11	RJD22	RJD33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	160 lbs.	130 lbs.	95 lbs.
List Price, each .....	\$ .60	\$ .70	\$1.00



### TYPE RJF CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	RJF11	RJF22	RJF33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	170 lbs.	140 lbs.	100 lbs.
List Price, each .....	\$ .70	\$ .80	\$ .90



### TYPE RJK CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	RJK11	RJK22	RJK33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	160 lbs.	130 lbs.	95 lbs.
List Price, each .....	\$ .70	\$ .80	\$ .90



### TYPE RJL CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	RJL11	RJL22	RJL33
Standard Package.....	100	75	50
Shipping Weight Std. Pkg..	150 lbs.	120 lbs.	90 lbs.
List Price, each .....	\$ .70	\$ .80	\$ .90

Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Elliptical Conduletto fittings are listed on page Cross Reference No. 188a. Elliptical covers are listed on page Cross Reference No. CH73. Elliptical gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH70)



TYPES RJR, RJT, RJU, RJX AND RK CONDULET BODIES  
WITH ELLIPTICAL OPENINGS

### Take Elliptical Conduletto Fittings and Elliptical Covers



TYPE RJR CONDULET BODIES—Black Enamel Finish			
Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	RJR11	RJR22	RJR33
Standard Package .....	100	75	50
Shipping Weight Std. Pkg. .	150 lbs.	120 lbs.	90 lbs.
List Price, each .....	\$ .70	\$ .80	\$ .90



TYPE RJT CONDULET BODIES—Black Enamel Finish			
Size in inches . . . . .	1/2	3/4	1
Catalogue Number . . . . .	RJT111	RJT222	RJT333
Standard Package . . . . .	100	75	50
Shipping Weight Std. Pkg. . . . .	160 lbs.	130 lbs.	95 lbs.
List Price, each . . . . .	\$ .80	\$ .90	\$1.00



TYPE RJU CONDULET BODIES—Black Enamel Finish			
Size in inches . . . . .	1/2	3/4	1
Catalogue Number . . . . .	RJU11	RJU22	RJU33
Standard Package . . . . .	100	75	50
Shipping Weight Std. Pkg. .	135 lbs.	100 lbs.	80 lbs.
List Price, each . . . . .	\$ .60	\$ .70	\$ .95



TYPE RJX CONDULET BODIES—Black Enamel Finish			
Size in inches .....	1/2	3/4	1
Catalogue Number .....	RJX1111	RJX2222	RJX3333
Standard Package .....	100	75	50
Shipping Weight Std. Pkg..	160 lbs.	130 lbs.	95 lbs.
List Price, each .....	\$ .90	\$1.00	\$1.10



TYPE RK CONDULET BODIES—Black Enamel Finish			
Size in inches .....	1/2	3/4	1
Catalogue Number .....	RK1	RK2	RK3
Standard Package .....	100	75	50
Shipping Weight Std. Pkg. .	135 lbs.	100 lbs.	80 lbs.
List Price, each .....	\$ .40	\$ .55	\$ .80

Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Elliptical Conduletto fittings are listed on page Cross Reference No. CH188a. Elliptical covers are listed on page Cross Reference No. CH73. Elliptical gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH71)



# TYPES RKA, RKB, RKC, RKD AND RKK CONDULET BODIES WITH ELLIPTICAL OPENINGS

Take Elliptical Conduletto Fittings and Elliptical Covers



## TYPE RKA CONDULET BODIES—Black Enamel Finish

Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	RKA1	RKA2	RKA3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.	135 lbs.	100 lbs.	80 lbs.
List Price, each.....	\$ .50	\$ .60	\$ .90



## TYPE RKB CONDULET BODIES—Black Enamel Finish

Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	RKB1	RKB2	RKB3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.	135 lbs.	100 lbs.	80 lbs.
List Price, each.....	\$ .50	\$ .60	\$ .90



## TYPE RKC CONDULET BODIES—Black Enamel Finish

Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	RKC1	RKC2	RKC3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.	170 lbs.	140 lbs.	100 lbs.
List Price, each.....	\$ .50	\$ .60	\$ .90



## TYPE RKD CONDULET BODIES—Black Enamel Finish

Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	RKD1	RKD2	RKD3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.	170 lbs.	140 lbs.	100 lbs.
List Price, each.....	\$ .50	\$ .60	\$ .90



## TYPE RKK CONDULET BODIES—Black Enamel Finish

Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number.....	RKK1	RKK2	RKK3
Standard Package.....	100	75	50
Shipping Weight Std. Pkg.	160 lbs.	130 lbs.	100 lbs.
List Price, each.....	\$ .50	\$ .60	\$ .90

Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the RJ and RK series.

Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Elliptical Conduletto fittings are listed on page Cross Reference No. CH188a. Elliptical covers are listed on following page. Elliptical gaskets are listed on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH72)



## ELLIPTICAL COVERS FOR CONDULETS

For Condulet Bodies with Elliptical Openings—Types RJ and RK Series  
Furnished with Fastening Screws



RK01



RK020



RK013



RK00

Standard Package Assorted..... 200

Standard Package Assorted..... 200

## PORCELAIN WIRE HOLE AND BLANK METAL COVERS

1-wire	Catalogue Number.....	RK01	Sheet Steel	Catalogue Number.....	RK00
	List Price, each.....	\$ .10		List Price, each.....	\$ .08
2-wire	Catalogue Number.....	RK02	Cast Iron (Flange)	Catalogue Number.....	RK006
	List Price, each.....	\$ .10		List Price, each.....	\$ .16
3-wire	Catalogue Number.....	RK03		Catalogue Number.....	RK006
	List Price, each.....	\$ .10		List Price, each.....	\$ .16
Shipping Weight Std. Pkg. ....		60 lbs.	Shipping Weight Std. Pkg. ....		40 lbs.

## METAL COVERS WITH NIPPLES—Black Enamel Finish

1/8" Male	Catalogue Number.....	RK05	3/8" Male	Catalogue Number.....	RK07
	List Price, each.....	\$ .20		List Price, each.....	\$ .25
1/8" Female	Catalogue Number.....	RK06	3/8" Female	Catalogue Number.....	RK08
	List Price, each.....	\$ .20		List Price, each.....	\$ .25
1/4" Male	Catalogue Number.....	RK013	1/2" Male	Catalogue Number.....	RK015
	List Price, each.....	\$ .23		List Price, each.....	\$ .30
1/4" Female	Catalogue Number.....	RK014	1/2" Female	Catalogue Number.....	RK016
	List Price, each.....	\$ .23		List Price, each.....	\$ .30
Shipping Weight Std. Pkg. ....		50 lbs.	Shipping Weight Std. Pkg. ....		60 lbs.

## PORCELAIN COVERS WITH NIPPLES

1/8" Male	Catalogue Number.....	RK09	3/8" Male	Catalogue Number.....	RK011
	List Price, each.....	\$ .25		List Price, each.....	\$ .35
1/8" Female	Catalogue Number.....	RK010	3/8" Female	Catalogue Number.....	RK012
	List Price, each.....	\$ .25		List Price, each.....	\$ .35
1/4" Male	Catalogue Number.....	RK019	1/2" Male	Catalogue Number.....	RK021
	List Price, each.....	\$ .30		List Price, each.....	\$ .40
1/4" Female	Catalogue Number.....	RK020	1/2" Female	Catalogue Number.....	RK022
	List Price, each.....	\$ .30		List Price, each.....	\$ .40
Shipping Weight Std. Pkg. ....		90 lbs.	Shipping Weight Std. Pkg. ....		95 lbs.

Elliptical covers are made in one size only, and are interchangeable on all elliptical Condulet bodies—RJ and RK series.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish, when specifically ordered, will be furnished at same price as black enamel finish. For special plated finishes, brass and bronze covers with plain and special finishes, aluminum covers with plain and black enamel finish, see page Cross Reference No. CH 182.

Black enameled, galvanized and porcelain elliptical covers may be assorted to make up a standard package. No other assortment is allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

For sizes of wire holes in covers, see page Cross Reference No. CH172. Elliptical gaskets are listed on page Cross Reference No. CH176.

(Cross Reference No. CH73)



## TYPES GS AND GSA CONDULETS

### VAPOR, GAS AND DUST-PROOF

For 5, 10 and 20-Ampere, Round Base Snap Switches\*

Furnished with Fastening Strap and Screws for Switches



Type GSC

Condulets of the GS series provide water, gas, steam and dust-tight enclosures for 5, 10 or 20-ampere rotary snap switches. They are designed to take the ordinary commercial type of snap switch; the only precaution necessary is that switches be equipped with wing handles, as shown in the illustration, instead of round handles.

These Condulets are designed so as to preserve the indicating features of the switch, it being possible to adjust the external operating handle so as to come in proper relation with the words "off" and "on" which appear on the surface of the cover. An interference on the inside of the cover keeps the handle from being turned backward and thereby prevents the unscrewing or crushing of the switch handle.

The joint between the Condulet body and cover is made tight by the use of a round rubber gasket. Screw holes are placed outside of the gasket.



#### TYPE GS—Black Enamel Finish

1/2	3/4	1	Size, inches	1/2	3/4	1
Complete with Cover			Form 5	Bodies Only		
GS158 35 225 lbs. \$1.75	GS258 25 160 lbs. \$1.90	GS358 10 70 lbs. \$2.10	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GS15 35 160 lbs. \$.75	GS25 25 110 lbs. \$.90	GS35 10 50 lbs. \$1.10
Complete with Cover			Form 10	Bodies Only		
GS1108 35 255 lbs. \$2.10	GS2108 25 190 lbs. \$2.15	GS3108 10 85 lbs. \$2.40	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GS110 35 185 lbs. \$.90	GS210 25 135 lbs. \$.95	GS310 10 60 lbs. \$1.20
Complete with Cover			Form 20	Bodies Only		
GS1208 35 330 lbs. \$3.00	GS2208 25 240 lbs. \$3.15	GS3208 10 105 lbs. \$3.35	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GS120 35 245 lbs. \$1.25	GS220 25 175 lbs. \$1.40	GS320 10 75 lbs. \$1.60

#### TYPE GSA—Black Enamel Finish

1/2	3/4	1	Size, inches	1/2	3/4	1
Complete with Cover			Form 5	Bodies Only		
GSA158 35 225 lbs. \$1.80	GSA258 25 160 lbs. \$1.95	GSA358 10 70 lbs. \$2.15	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GSA15 35 160 lbs. \$.80	GSA25 25 110 lbs. \$.95	GSA35 10 50 lbs. \$1.15
Complete with Cover			Form 10	Bodies Only		
GSA1108 35 255 lbs. \$2.15	GSA2108 25 190 lbs. \$2.20	GSA3108 10 85 lbs. \$2.50	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GSA110 35 185 lbs. \$.95	GSA210 25 135 lbs. \$1.00	GSA310 10 60 lbs. \$1.30
Complete with Cover			Form 20	Bodies Only		
GSA1208 35 330 lbs. \$3.05	GSA2208 25 240 lbs. \$3.20	GSA3208 10 105 lbs. \$3.45	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GSA120 35 245 lbs. \$1.30	GSA220 25 175 lbs. \$1.45	GSA320 10 75 lbs. \$1.70

\*Switches for Condulets of the GS series are enumerated on page Cross Reference No. CH342.  
Finishes and assortments, see page Cross Reference No. CH342.



## TYPES GSC, GSL AND GST CONDULETS

VAPOR, GAS AND DUST-PROOF

For 5, 10 and 20-Ampere, Round Base Snap Switches

Furnished with Fastening Strap and Screws for Switches



## TYPE GSC—Black Enamel Finish

$\frac{1}{2}$	$\frac{3}{4}$	1	Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete with Cover			Form 5	Bodies Only		
GSC158 35 230 lbs. \$1.85	GSC258 25 165 lbs. \$2.00	GSC358 10 75 lbs. \$2.20	Cat. No. Std. Pkg. Wt. Std. Pkg. List, each	GSC15 35 165 lbs. \$.85	GSC25 25 115 lbs. \$1.00	GSC35 10 55 lbs. \$1.20
Complete with Cover			Form 10	Bodies Only		
GSC1108 35 260 lbs. \$2.20	GSC2108 25 195 lbs. \$2.25	GSC3108 10 90 lbs. \$2.50	Cat. No. Std. Pkg. Wt. Std. Pkg. List, each	GSC110 35 190 lbs. \$1.00	GSC210 25 140 lbs. \$1.05	GSC310 10 65 lbs. \$1.30
Complete with Cover			Form 20	Bodies Only		
GSC1208 35 335 lbs. \$3.10	GSC2208 25 245 lbs. \$3.25	GSC3208 10 110 lbs. \$3.45	Cat. No. Std. Pkg. Wt. Std. Pkg. List, each	GSC120 35 250 lbs. \$1.35	GSC220 25 180 lbs. \$1.50	GSC320 10 80 lbs. \$1.70



## TYPE GSL—Black Enamel Finish

$\frac{1}{2}$	$\frac{3}{4}$	1	Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete with Cover			Form 5	Bodies Only		
GSL158 35 230 lbs. \$1.90	GSL258 25 165 lbs. \$2.05	GSL358 10 75 lbs. \$2.25	Cat. No. Std. Pkg. Wt. Std. Pkg. List, each	GSL15 35 165 lbs. \$.90	GSL25 25 115 lbs. \$1.05	GSL35 10 55 lbs. \$1.25
Complete with Cover			Form 10	Bodies Only		
GSL1108 35 260 lbs. \$2.25	GSL2108 25 195 lbs. \$2.35	GSL3108 10 90 lbs. \$2.65	Cat. No. Std. Pkg. Wt. Std. Pkg. List, each	GSL110 35 190 lbs. \$1.05	GSL210 25 140 lbs. \$1.15	GSL310 10 65 lbs. \$1.45
Complete with Cover			Form 20	Bodies Only		
GSL1208 35 335 lbs. \$3.15	GSL2208 25 245 lbs. \$3.35	GSL3208 10 110 lbs. \$3.65	Cat. No. Std. Pkg. Wt. Std. Pkg. List, each	GSL120 35 250 lbs. \$1.40	GSL220 25 180 lbs. \$1.60	GSL320 10 80 lbs. \$1.90



## TYPE GST—Black Enamel Finish

$\frac{1}{2}$	$\frac{3}{4}$	1	Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete with Cover			Form 5	Bodies Only		
GST158 35 235 lbs. \$2.05	GST258 25 170 lbs. \$2.20	GST358 10 80 lbs. \$2.40	Cat. No. Std. Pkg. Wt. Std. Pkg. List, each	GST15 35 170 lbs. \$1.05	GST25 25 120 lbs. \$1.20	GST35 10 60 lbs. \$1.40

For finishes and assortments, see Manufacturer's Page No. CH1000I12.



## TYPES GST AND GSX CONDULETS

### VAPOR, GAS AND DUST-PROOF

For 5, 10 and 20-Ampere, Round Base Snap Switches

Furnished with Fastening Strap and Screws for Switches



#### TYPE GST (Continued)—Black Enamel Finish

Complete with Cover			Form 10	Bodies Only		
GST1108 35 26½ lbs. \$2.40	GST2108 25 200 lbs. \$2.50	GST3108 10 95 lbs. \$2.80	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GST110 35 195 lbs. \$1.20	GST210 25 145 lbs. \$1.30	GST310 10 70 lbs. \$1.60
Complete with Cover			Form 20	Bodies Only		
GST1208 35 340 lbs. \$3.30	GST2208 25 250 lbs. \$3.50	GST3208 10 115 lbs. \$3.80	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GST120 35 255 lbs. \$1.55	GST220 25 185 lbs. \$1.75	GST320 10 85 lbs. \$2.05



#### TYPE GSX—Black Enamel Finish

½	¾	1	Size, inches	½	¾	1
Complete with Cover			Form 5	Bodies Only		
GSX158 35 240 lbs. \$2.20	GSX258 25 175 lbs. \$2.35	GSX358 10 85 lbs. \$2.65	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GSX15 35 175 lbs. \$1.20	GSX25 25 125 lbs. \$1.35	GSX35 10 65 lbs. \$1.65
Complete with Cover			Form 10	Bodies Only		
GSX1108 35 270 lbs. \$2.55	GSX2108 25 205 lbs. \$2.70	GSX3108 10 100 lbs. \$3.20	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GSX110 35 200 lbs. \$1.35	GSX210 25 150 lbs. \$1.50	GSX310 10 75 lbs. \$2.00
Complete with Cover			Form 20	Bodies Only		
GSX1208 35 345 lbs. \$3.45	GSX2208 25 255 lbs. \$3.70	GSX3208 10 120 lbs. \$4.20	Cat. No. Std. Pkg. Wt.Std.Pkg. List, each	GSX120 35 260 lbs. \$1.70	GSX220 25 190 lbs. \$1.95	GSX320 10 90 lbs. \$2.45

## VAPOR, GAS AND DUST-PROOF COVERS FOR GS SERIES CONDULET BODIES

Furnished with Gasket and Fastening Screws—Black Enamel Finish



For ½, ¾ and 1-Inch Condulet Bodies	For Form 5	For Form 10	For Form 20
Catalogue Number . . . . .	GS58	GS108	GS208
Standard Package . . . . .	35	35	35
Shipping Weight Standard Package . . . . .	60 lbs.	75 lbs.	90 lbs.
List Price, each . . . . .	\$1.00	\$1.20	\$1.75

Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Gray lead finish on the exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies gray lead finish. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.







Black enameled, gray lead and galvanized Condulets of the same type, form and size may be assorted to make up a standard package. No other assortment is allowed.



## TYPES PM, PMA, PMC, PML, PMT AND PMX CONDULETS

## TAKE 3 TO 4-INCH CANOPIES

For Electroliners and Combination Gas and Electric Fixtures, also Abolite G403

	TYPE PM CONDULETS—Black Enamel Finish					
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PM1	PM2	PM3	PM4	PM5
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	80 lbs.	65 lbs.	45 lbs.	50 lbs.	55 lbs.
	List Price, each	\$ .90	\$1.05	\$1.20	\$1.35	\$1.50
	TYPE PMA CONDULETS—Black Enamel Finish					
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PMA1	PMA2	PMA3	PMA4	PMA5
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	80 lbs.	65 lbs.	45 lbs.	50 lbs.	55 lbs.
	List Price, each	\$ .90	\$1.05	\$1.20	\$1.35	\$1.50
	TYPE PMC CONDULETS—Black Enamel Finish					
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PMC11	PMC22	PMC33	PMC44	PMC55
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	90 lbs.	85 lbs.	45 lbs.	50 lbs.	55 lbs.
	List Price, each	\$1.05	\$1.20	\$1.35	\$1.50	\$1.65
	TYPE PML CONDULETS—Black Enamel Finish					
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PML11	PML22	PML33	PML44	PML55
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	90 lbs.	85 lbs.	45 lbs.	50 lbs.	55 lbs.
	List Price, each	\$1.05	\$1.20	\$1.35	\$1.50	\$1.65
	TYPE PMT CONDULETS—Black Enamel Finish					
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PMT111	PMT222	PMT333	PMT444	PMT555
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	120 lbs.	110 lbs.	55 lbs.	60 lbs.	65 lbs.
	List Price, each	\$1.25	\$1.40	\$1.55	\$1.70	\$1.85
	TYPE PMX CONDULETS—Black Enamel Finish					
	Size in inches..	1/2	3/4	1	1 1/4	1 1/2
	Catalogue No..	PMX1111	PMX2222	PMX3333	PMX4444	PMX5555
	Standard Pkg..	35	25	10	10	10
	Wt. Std. Pkg..	140 lbs.	120 lbs.	60 lbs.	65 lbs.	70 lbs.
	List Price, each	\$1.40	\$1.55	\$1.70	\$1.85	\$2.00

For finishes and assortments, see note on page Cross Reference No. CH89.

Grounding clamp, for use with combination gas and electric fixtures, is not included in prices for Condulets of the PM series, but will be furnished, if specifically ordered. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH82a)



# PES PG, PGB, PGC, PGCA, PGL, PGT AND PGG CONDULETS

Use General Electric 2 H. P., 250-Volt, 3-Phase, Snap Switch 151394 with Protective Cover for Textile Mill Installations

Furnished with All Necessary Fastening Screws



Showing Switch Installed  
Prices do not include Switch

## TYPE PG CONDULETS—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	PG1	PG2	PG3
Standard Package	35	25	10
Shipping Weight Std. Pkg.	85 lbs.	70 lbs.	50 lbs.
List Price, each	\$1.10	\$1.25	\$1.40



## TYPE PGB CONDULETS—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	PGB11	PGB22	PGB33
Standard Package	35	25	10
Shipping Weight Std. Pkg.	95 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.25	\$1.40	\$1.55



## TYPE PGC CONDULETS—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	PGC11	PGC22	PGC33
Standard Package	35	25	10
Shipping Weight Std. Pkg.	95 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.25	\$1.40	\$1.55



## TYPE PGCA CONDULETS—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	PGCA111	PGCA222	PGCA333
Standard Package	35	25	10
Shipping Weight Std. Pkg.	125 lbs.	115 lbs.	60 lbs.
List Price, each	\$1.45	\$1.60	\$1.75



## TYPE PGL CONDULETS—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	PGL11	PGL22	PGL33
Standard Package	35	25	10
Shipping Weight Std. Pkg.	95 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.25	\$1.40	\$1.55



## TYPE PGT CONDULETS—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	PGT111	PGT222	PGT333
Standard Package	35	25	10
Shipping Weight Std. Pkg.	125 lbs.	115 lbs.	60 lbs.
List Price, each	\$1.45	\$1.60	\$1.75



## TYPE PGG CONDULETS—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	PGG11	PGG22	PGG33
Standard Package	35	25	10
Shipping Weight Std. Pkg.	95 lbs.	90 lbs.	50 lbs.
List Price, each	\$1.25	\$1.40	\$1.55

Above prices do not include switches.

(Cross Reference No. CH79a)




## TYPES PHM, PHMC, PHML, PHMT AND PHMX CONDULET

## TAKE 3 TO 4-INCH CANOPIES

For Exposed Conduit Extensions from Concealed Wiring at Fixture Outlets

For Electroliners and Combination Gas and Electric Fixtures, also Abolite G403

	TYPE PHM CONDULETS—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	PHM1	PHM2	PHM3
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. List Price, each .....	100 lbs. \$1.05	75 lbs. \$1.20	45 lbs. \$1.35
	TYPE PHMC CONDULETS—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	PHMC11	PHMC22	PHMC33
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. List Price, each .....	100 lbs. \$1.20	75 lbs. \$1.35	45 lbs. \$1.50
	TYPE PHML CONDULETS—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	PHML11	PHML22	PHML33
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. List Price, each .....	100 lbs. \$1.20	75 lbs. \$1.35	45 lbs. \$1.50
	TYPE PHMT CONDULETS—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	PHMT111	PHMT222	PHMT333
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. List Price, each .....	125 lbs. \$1.40	90 lbs. \$1.55	50 lbs. \$1.70
	TYPE PHMX CONDULETS—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	PHMX1111	PHMX2222	PHMX3333
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. List Price, each .....	150 lbs. \$1.65	110 lbs. \$1.80	60 lbs. \$1.95

For finishes and assortments, see note on page Cross Reference No. CH89.

Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH86a)



## TYPES QHA AND QHB CONDULETS

Weather-Proof Condulets for Thumb Knob Snap Switches, Attachment Plug Receptacles and Crouse-Hinds Plug Receptacles RQH302 and RQH303

Furnished with Fastening Straps and Bolts for Fittings



Type QHC

Showing Switch Mounted and Padlock  
(Broken-away View)



Type QHB

Showing Attachment Plug Receptacle Mounted  
(Broken-away View)



Type QHC

Showing Crouse-Hinds Plug Receptacle RQH302 Mounted  
(Door Open)



### TYPE QHA CONDULETS—Black Enamel Finish

	Size in inches . . . . .	1/2	3/4	1
Form 10	Catalogue Number . . . . .	QHA1510	QHA2510	QHA3510
	Standard Package . . . . .	35	25	15
	Weight Std. Pkg. . . . .	80 lbs.	60 lbs.	45 lbs.
	List Price, each . . . . .	\$1.25	\$1.40	\$1.55
Form 20	Catalogue Number . . . . .	QHA120	QHA220	QHA320
	Standard Package . . . . .	35	25	15
	Weight Std. Pkg. . . . .	150 lbs.	110 lbs.	70 lbs.
	List Price, each . . . . .	\$1.65	\$1.80	\$2.00



### TYPE QHB CONDULETS—Black Enamel Finish

	Size in inches . . . . .	1/2	3/4	1
Form 10	Catalogue Number . . . . .	QHB1510	QHB2510	QHB3510
	Standard Package . . . . .	35	25	15
	Weight Std. Pkg. . . . .	75 lbs.	60 lbs.	45 lbs.
	List Price, each . . . . .	\$1.30	\$1.45	\$1.60
Form 20	Catalogue Number . . . . .	QHB120	QHB220	QHB320
	Standard Package . . . . .	35	25	15
	Weight Std. Pkg. . . . .	140 lbs.	100 lbs.	70 lbs.
	List Price, each . . . . .	\$1.75	\$1.90	\$2.05

Keys for use with Condulets of the QH series are not included in above list prices, but are enumerated on opposite page.

Lock is not included in above list prices for Condulets of the QH series, but is listed on page Cross Reference No. CH175.

Finishes and assortments, see note on opposite page.

Crouse-Hinds plug receptacles RQH302 and RQH303, for use with Condulets of the QH series, are listed on page Cross Reference No. CH168.

Fastening straps are listed separately on page Cross Reference No. CH175. Condulet reducers are listed on page Cross Reference No. CH171.

Types of the QH series of Condulets are continued on opposite page.

(Cross Reference No. CH90a)



## TYPES QHC, QHL AND QHT CONDULETS

Weather-Proof Condulets for Thumb Knob Snap Switches, Attachment Plug Receptacles and  
Crouse-Hinds Plug Receptacles RQH302 and RQO303

Furnished with Fastening Straps and Bolts for Fittings

### TYPE QHC CONDULETS—Black Enamel Finish

	Size in inches . . . . .	1/2	3/4	1
<b>Form 10</b>	Catalogue Number..	QHC11510	QHC22510	QHC33510
	Standard Package...	35	25	15
	Weight Std. Pkg.....	120 lbs.	90 lbs.	60 lbs.
	List Price, each.....	\$1.50	\$1.75	\$2.00
<b>Form 20</b>	Catalogue Number..	QHC1120	QHC2220	QHC3320
	Standard Package...	35	25	15
	Weight Std. Pkg.....	180 lbs.	120 lbs.	80 lbs.
	List Price, each.....	\$2.00	\$2.30	\$2.60

### TYPE QHL CONDULETS—Black Enamel Finish

	Size in inches . . . . .	1/2	3/4	1
<b>Form 10</b>	Catalogue Number..	QHL11510	QHL22510	QHL33510
	Standard Package...	35	25	15
	Weight Std. Pkg.....	90 lbs.	60 lbs.	50 lbs.
	List Price, each.....	\$1.40	\$1.55	\$1.70
<b>Form 20</b>	Catalogue Number..	QHL1120	QHL2220	QHL3320
	Standard Package...	35	25	15
	Weight Std. Pkg.....	150 lbs.	100 lbs.	70 lbs.
	List Price, each.....	\$1.90	\$2.10	\$2.30

### TYPE QHT CONDULETS—Black Enamel Finish

	Size in inches . . . . .	1/2	3/4	1
<b>Form 10</b>	Catalogue Number..	QHT11510	QHT22510	QHT33510
	Standard Package...	35	25	15
	Weight Std. Pkg.....	120 lbs.	90 lbs.	60 lbs.
	List Price, each.....	\$1.65	\$1.90	\$2.15
<b>Form 20</b>	Catalogue Number..	QHT1120	QHT2220	QHT3320
	Standard Package...	35	25	15
	Weight Std. Pkg.....	160 lbs.	110 lbs.	90 lbs.
	List Price, each.....	\$2.15	\$2.45	\$2.80

Important Information Concerning Condulets Listed on This and the Opposite Page  
Fittings for use with Condulets of the QH series are not included in above list prices, but are as follows:

## For Form 10

Thumb Knob Snap Switches: All 5, and 10 ampere, 125 and 250 volt switches enumerated on pages 62 and 63, and all 5 and 10 ampere, 600 volt switches not over 2 3/8 inches deep over all, not over 1 1/2 inches deep to top of cover, and with bases not exceeding 2 1/2 inches in diameter, enumerated on the same pages.  
Attachment Plug Receptacles: HUBBELL—5017, 5021, 5024, 5757. G. E. CO.—102700.  
Crouse-Hinds, 30 Ampere, 2-Pole, Plug Receptacle—RQH302.

## For Form 20

Thumb Knob Snap Switches: All 5, 10 and 20 ampere, 125 and 250 volt switches enumerated on pages 62 and 63, and all 5, 10 and 20 ampere, 600 volt switches not over 3 inches deep over all, not over 2 5/8 inches deep to top of cover, and with bases not exceeding 3 3/8 inches in diameter, enumerated on the same pages.  
Attachment Plug Receptacles: HUBBELL—5017, 5021, 5024, 5757. G. E. CO.—102700.  
Crouse-Hinds, 30 Ampere, 3-Pole, Plug Receptacle—RQH303.

Padlock is not included in above list prices for Condulets of the QH series, but is listed on page Cross Reference No. CH175.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish when the order specifies galvanized finish. For special plated finishes; for cast brass and cast bronze Condulets, plain and with special finishes; for aluminum Condulets, plain and with black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Crouse-Hinds plug receptacles RQH302 and RQH303, for use with Condulets of the QH series, are listed on page Cross Reference No. CH168.

Fastening straps are listed separately on page Cross Reference No. CH175. Condulet reducers are listed on page Cross Reference No. CH171.



## TYPES QKA AND QKB CONDULETS

Weather-Proof Condulets for Standard Lock Snap Switches and Crouse-Hinds Plug Receptacles RQK302 and RQK303

Furnished with Covers, Fastening Straps and Bolts for Switches and all necessary Screws



Type QKC  
Showing Lock Snap Switch Mounted  
(Broken-away View)



Type QKA  
Showing Crouse-Hinds Plug Receptacle  
RQK302 Mounted

### TYPE QKA CONDULETS—Black Enamel Finish



	Size in inches.....	1/2	3/4	1
Form 10	Catalogue Number...	QKA1510	QKA2510	QKA3510
	Standard Package...	35	25	15
	Weight Std. Pkg.....	70 lbs.	55 lbs.	40 lbs.
	List Price, each.....	\$1.10	\$1.20	\$1.35
Form 20	Catalogue Number...	QKA120	QKA220	QKA320
	Standard Package...	35	25	15
	Weight Std. Pkg.....	120 lbs.	90 lbs.	60 lbs.
	List Price, each.....	\$1.45	\$1.60	\$1.80

### TYPE QKB CONDULETS—Black Enamel Finish



	Size in inches.....	1/2	3/4	1
Form 10	Catalogue Number...	QKB1510	QKB2510	QKB3510
	Standard Package...	35	25	15
	Weight Std. Pkg.....	70 lbs.	55 lbs.	40 lbs.
	List Price, each.....	\$1.15	\$1.25	\$1.40
Form 20	Catalogue Number...	QKB120	QKB220	QKB320
	Standard Package...	35	25	15
	Weight Std. Pkg.....	120 lbs.	90 lbs.	60 lbs.
	List Price, each.....	\$1.50	\$1.70	\$1.85

#### Important Information Concerning Condulets Listed on This Page

Fittings for use with Condulets of the QK series are not included in above list prices, but are enumerated on opposite page.

For finishes and assortments, see note on opposite page.

Crouse-Hinds plug receptacles RQK302 and RQK303, for use with Condulets of the QK series, are listed on page Cross Reference No. CH168.

Fastening straps are listed separately on page Cross Reference No. CH175. Condulet reducers are listed on page Cross Reference No. CH171.

Listings of the QK series of Condulets are continued on opposite page.

(Cross Reference No. CH90e)



## TYPES QKC, QKL AND QKT CONDULETS

Weather-Proof Condulets for Standard Lock Snap Switches and  
Crouse-Hinds Plug Receptacles RQK302 and RQK303

Furnished with Covers, Fastening Straps and Bolts for Switches and all necessary Screws



## TYPE QKC CONDULETS—Black Enamel Finish

	Size in inches ....	1/2	3/4	1
Form 10	Catalogue No....	QKC11510	QKC22510	QKC33510
	Standard Package	35	25	15
	Weight Std. Pkg..	100 lbs.	70 lbs.	50 lbs.
	List Price, each..	\$1.30	\$1.50	\$1.70
Form 20	Catalogue No....	QKC1120	QKC2220	QKC3320
	Standard Package	35	25	15
	Weight Std. Pkg..	160 lbs.	120 lbs.	80 lbs.
	List Price, each..	\$1.75	\$2.00	\$2.30



## TYPE QKL CONDULETS—Black Enamel Finish

	Size in inches ....	1/2	3/4	1
Form 10	Catalogue No....	QKL11510	QKL22510	QKL33510
	Standard Package	35	25	15
	Weight Std. Pkg..	90 lbs.	60 lbs.	45 lbs.
	List Price, each..	\$1.20	\$1.35	\$1.50
Form 20	Catalogue No....	QKL1120	QKL2220	QKL3320
	Standard Package	35	25	15
	Weight Std. Pkg..	150 lbs.	110 lbs.	75 lbs.
	List Price, each..	\$1.70	\$1.85	\$2.05



## TYPE QKT CONDULETS—Black Enamel Finish

	Size in inches ....	1/2	3/4	1
Form 10	Catalogue No....	QKT11510	QKT22510	QKT33510
	Standard Package	35	25	15
	Weight Std. Pkg..	110 lbs.	80 lbs.	60 lbs.
	List Price, each..	\$1.40	\$1.60	\$1.90
Form 20	Catalogue No....	QKT1120	QKT2220	QKT3320
	Standard Package	35	25	15
	Weight Std. Pkg..	170 lbs.	130 lbs.	85 lbs.
	List Price, each..	\$1.90	\$2.20	\$2.50

Important Information Concerning Condulets Listed on This and the Opposite Page  
Fittings for use with Condulets of the QK series are not included in above list prices, but are as follows:

## For Form 10

Lock Snap Switches: All 5 and 10-ampere, 125 and 250 volt switches enumerated on pages 62 and 63, and all 5 and 10 ampere, 600 volt switches not over 1 5/8 inches deep to top of cover and with bases not exceeding 2 9/16 inches in diameter, enumerated on the same pages.

Crouse-Hinds, 30 Ampere, 2-pole, Plug Receptacle—RQK302.

## For Form 20

Lock Snap Switches: All 5, 10 and 20 ampere, 125 and 250 volt switches enumerated on pages 62 and 63, and all 10 and 20 ampere, 600 volt switches not over 2 5/16 inches deep to top of cover and with bases not exceeding 3 7/16 inches in diameter, enumerated on the same pages.

Crouse-Hinds, 30 Ampere, 3-pole, Plug Receptacle—RQK303.

**Finishes:** Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish when the order specifies galvanized finish. For special plated finishes; for cast brass or cast bronze Condulets, plain and with special finishes; for aluminum Condulets, plain or with black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Crouse-Hinds plug receptacles RQK302 and RQK303, for use with Condulets of the QK series, are listed on page Cross Reference No. CH168.









Fastening straps are listed separately on page Cross Reference No. CH175. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH90d)



# MOGUL OBROUND CONDULET BODIES

Take Mogul Obround Covers

	TYPE BC				
	Size in inches . . .	1	1 1/4	1 1/2	2
	Catalogue No. . .	BC3	BC4	BC5	BC6
	Standard Pkg. . .	20	15	10	5
	Weight Std. Pkg. . .	75 lbs.	60 lbs.	80 lbs.	50 lbs.
	List Price, each . .	\$1.90	\$2.15	\$4.15	\$4.75
	Size in inches . . .	2 1/2	3	3 1/2	4
	Catalogue No. . .	BC7	BC8	BC9	BC10
	Standard Pkg. . .	5	5	5	5
	Weight Std. Pkg. . .	85 lbs.	100 lbs.	165 lbs.	180 lbs.
	List Price, each . .	\$9.30	\$10.20	\$22.00	\$24.00
	TYPE BBE				
	Size in inches . . .	1	1 1/4	1 1/2	2
	Catalogue No. . .	BBE3	BBE4	BBE5	BBE6
	Standard Pkg. . .	20	15	10	5
	Weight Std. Pkg. . .	60 lbs.	50 lbs.	70 lbs.	45 lbs.
	List Price, each . .	\$1.70	\$1.90	\$3.70	\$4.20
	Size in inches . . .	2 1/2	3	3 1/2	4
	Catalogue No. . .	BBE7	BBE8	BBE9	BBE10
	Standard Pkg. . .	5	5	5	5
	Weight Std. Pkg. . .	75 lbs.	85 lbs.	140 lbs.	150 lbs.
	List Price, each . .	\$8.15	\$9.00	\$17.00	\$19.00
	TYPE BLB				
	Size in inches . . .	1	1 1/4	1 1/2	2
	Catalogue No. . .	BLB3	BLB4	BLB5	BLB6
	Standard Pkg. . .	20	15	10	5
	Weight Std. Pkg. . .	75 lbs.	60 lbs.	80 lbs.	50 lbs.
	List Price, each . .	\$1.90	\$2.15	\$4.15	\$4.75
	Size in inches . . .	2 1/2	3	3 1/2	4
	Catalogue No. . .	BLB7	BLB8	BLB9	BLB10
	Standard Pkg. . .	5	5	5	5
	Weight Std. Pkg. . .	85 lbs.	100 lbs.	165 lbs.	180 lbs.
	List Price, each . .	\$9.30	\$10.20	\$22.00	\$24.00
	TYPE BT				
	Size in inches . . .	1	1 1/4	1 1/2	2
	Catalogue No. . .	BT3	BT4	BT5	BT6
	Standard Pkg. . .	20	15	10	5
	Weight Std. Pkg. . .	90 lbs.	70 lbs.	90 lbs.	60 lbs.
	List Price, each . .	\$2.25	\$2.50	\$4.65	\$5.30
	Size in inches . . .	2 1/2	3	3 1/2	4
	Catalogue No. . .	BT7	BT8	BT9	BT10
	Standard Pkg. . .	5	5	5	5
	Weight Std. Pkg. . .	100 lbs.	120 lbs.	190 lbs.	210 lbs.
	List Price, each . .	\$10.40	\$11.40	\$28.00	\$30.00





Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

Assortments: Black enameled and galvanized Condulet bodies of the same type and size may be assorted. No other assortment is allowed.



## MOGUL OBROUND CONDULET BODIES

Take Mogul Obround Covers

	TYPE BTB				
	Size in inches . . .	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
	Catalogue No. . .	BTB3	BTB4	BTB5	BTB6
	Standard Pkg. . .	20	15	10	5
	Weight Std. Pkg. .	90 lbs.	70 lbs.	90 lbs.	60 lbs.
	List Price, each .	\$2.25	\$2.50	\$4.65	\$5.30
	Size in inches . . .	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
	TYPE BU				
	Size in inches . . .	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
	Catalogue No. . .	BU3	BU4	BU5	BU6
	Standard Pkg. . .	20	15	10	5
	Weight Std. Pkg. .	75 lbs.	60 lbs.	80 lbs.	50 lbs.
	List Price, each .	\$1.90	\$2.15	\$4.15	\$4.75
	Size in inches . . .	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
	TYPE BUB				
	Size in inches . . .	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
	Catalogue No. . .	BUB3	BUB4	BUB5	BUB6
	Standard Pkg. . .	20	15	10	5
	Weight Std. Pkg. .	75 lbs.	60 lbs.	80 lbs.	50 lbs.
	List Price, each .	\$1.90	\$2.15	\$4.15	\$4.75
	Size in inches . . .	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
	TYPE BX				
	Size in inches . . .	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
	Catalogue No. . .	BX3	BX4	BX5	BX6
	Standard Pkg. . .	20	15	10	5
	Weight Std. Pkg. .	100 lbs.	80 lbs.	100 lbs.	70 lbs.
	List Price, each .	\$2.50	\$2.75	\$5.15	\$5.90
	Size in inches . . .	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
	Size in inches . . .	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
	Catalogue No. . .	BX7	BX8	BX9	BX10
	Standard Pkg. . .	5	5	5	5
	Weight Std. Pkg. .	110 lbs.	140 lbs.	210 lbs.	235 lbs.
	List Price, each .	\$11.60	\$13.00	\$35.00	\$38.00
	Size in inches . . .	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

**Assortments:** Black enameled and galvanized Condulet bodies of the same type and size may be assorted. No other assortment is allowed.




# MOGUL OBROUND CONDULET COVERS


For Condulet Bodies of the Mogul Obround Series

Furnished with Fastening Screws

## COMPOSITION

Size in inches	1 or 1 1/4	1 1/2 or 2	2 1/2 or 3	3 1/2 or 4
Standard Package Assorted	15	5	5	5
	1-Wire Catalogue Number Diam. Wire Holes List Price, each	CF241 1 5/16" \$2.25	CF261 2" \$3.50	CF281 2 5/16" \$6.30
	2-Wire Catalogue Number Diam. Wire Holes List Price, each	CF242 1 5/16" \$2.25	CF262 1 1/16" \$3.50	CF282 1 1/2" \$6.30
	3-Wire Catalogue Number Diam. Wire Holes List Price, each	CF243 2 1/32" \$2.25	CF263 1" \$3.50	CF283 1 3/8" \$6.30
	4-Wire Catalogue Number Diam. Wire Holes List Price, each	CF244 1 9/32" \$2.25	CF264 7/8" \$3.50	CF284 1 1/4" \$6.30
	5-Wire Catalogue Number Diam. Wire Holes List Price, each	CF245 1 7/32" \$2.25	CF265 3/4" \$3.50	CF285 1 1/8" \$6.30
	6-Wire Catalogue Number Diam. Wire Holes List Price, each	CF246 3/2" \$2.25	CF266 1 1/16" \$3.50	CF286 1" \$6.30
	7-Wire Catalogue Number Diam. Wire Holes List Price, each	CF247 3 1/4" \$2.25	CF267 1 1/16" \$3.50	CF287 1" \$6.30
	8-Wire Catalogue Number Diam. Wire Holes List Price, each	CF248 3 1/8" \$2.25	CF268 5/8" \$3.50	CF288 7/8" \$6.30
	9-Wire Catalogue Number Diam. Wire Holes List Price, each	CF249 3 1/2" \$2.25	CF269 9/16" \$3.50	CF289 13/16" \$6.30
Blank Composition Catalogue Number List Price, each		CF240 \$2.25	CF260 \$3.50	CF280 \$6.30
Weight Standard Package		25 lbs.	15 lbs.	20 lbs.

## CAST IRON BLANK—Black Enamel Finish

	Without Gasket	With Gasket	Without Gasket	With Gasket	Without Gasket	With Gasket	Without Gasket	With Gasket
Size in inches	1 or 1 1/4	1 1/2 or 2	2 1/2 or 3	3 1/2 or 4	Without Gasket	With Gasket	Without Gasket	With Gasket
	Cat. No. BG47	Cat. No. BG48	Cat. No. BG67	Cat. No. BG68	Cat. No. BG87	Cat. No. BG88	Cat. No. BG97	Cat. No. BG98
	Std. Pkg. 15	Std. Pkg. 15	Std. Pkg. 5	Std. Pkg. 5	Std. Pkg. 5	Std. Pkg. 5	Std. Pkg. 5	Std. Pkg. 5
	Wt. Pkg. 35 lbs.	Wt. Pkg. 40 lbs.	Wt. Pkg. 25 lbs.	Wt. Pkg. 30 lbs.	Wt. Pkg. 40 lbs.	Wt. Pkg. 45 lbs.	Wt. Pkg. 55 lbs.	Wt. Pkg. 60 lbs.
	List, each \$1.10	List, each \$1.50	List, each \$1.75	List, each \$2.40	List, each \$4.00	List, each \$5.40	List, each \$6.00	List, each \$7.50

Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish.

Assortments: Black enameled and galvanized covers of the same size may be assorted to make up a standard package, regardless of style of cover. No other assortment is allowed.



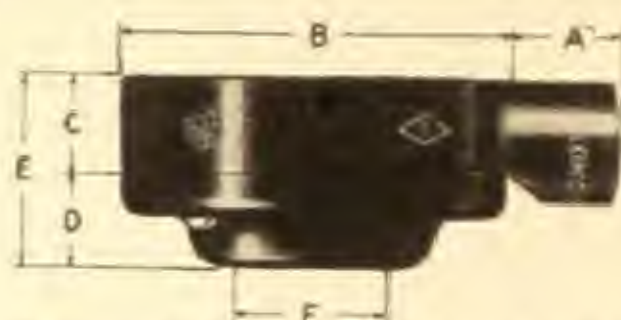
## TYPES S, SA AND SC CONDULET BODIES

For Pony Receptacles, Clamp Receptacles and Rosettes, and Hubbell Polarity Plug Receptacle 5757

Furnished with Fastening Straps for Fittings and all necessary Screws



Type SC  
Showing Pony Receptacle Mounted  
(Broken-away View)



Dimensional Drawing for S Series of Condulets



Type SC  
Showing Crouse-Hinds Clamp Receptacle  
without Shade Holder Groove Mounted  
(Broken-away View)



Type SL  
Showing Crouse-Hinds Clamp Cord  
Rosette Mounted

- A—For  $\frac{1}{2}$ -inch sizes,  $1\frac{1}{2}$  inches  
For  $\frac{3}{4}$ -inch sizes,  $1\frac{5}{8}$  inches  
For 1-inch sizes,  $1\frac{1}{2}$  inches  
B—For all sizes,  $3\frac{3}{4}$  inches  
C—For all sizes,  $\frac{3}{8}$ -inch  
D—For all sizes,  $1\frac{1}{2}$  inches  
E—For all sizes,  $1\frac{1}{2}$  inches  
F—For type OO cover,  $1\frac{1}{2}$  inches  
For type OOK cover,  $1\frac{3}{4}$  inches



Type SL  
Showing Hubbell Polarity Plug Receptacle  
5757 Mounted



## TYPE S CONDULET BODIES—Black Enamel Finish

Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	S1	S2	S3
Standard Package .....	100	75	25
Shipping Weight Std. Pkg. ....	130 lbs.	110 lbs.	50 lbs.
List Price, each .....	\$ .70	\$ .75	\$ .90



## TYPE SA CONDULET BODIES—Black Enamel Finish

Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	SA1	SA2	SA3
Standard Package .....	100	75	25
Shipping Weight Std. Pkg. ....	130 lbs.	110 lbs.	50 lbs.
List Price, each .....	\$ .70	\$ .75	\$ .90



## TYPE SC CONDULET BODIES—Black Enamel Finish

Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalogue Number .....	SC11	SC22	SC33
Standard Package .....	100	75	25
Shipping Weight Std. Pkg. ....	160 lbs.	135 lbs.	65 lbs.
List Price, each .....	\$ .80	\$ .85	\$1.05

Fittings for use with Condulets of the S series are not included in above list prices, but are enumerated on following page.

For finishes and assortments, see note on page Cross Reference No. CH91.

Conduletto clamp receptacles and rosettes, for use with Condulets of the S series, are listed on page Cross Reference No. CH190. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH94)



Furnished with Fastening Straps for Fittings and all necessary Screws

COVERS FOR TYPES S, SA, SC, SL, ST AND SX CONDULET BODIES—Black Enamel Finish. For 1-2, 3-4 and 1-inch Condulet Bodies

Fittings for use with Condulets of the S series are not included in above list prices, but are as follows:

PAID: 28795, 50715, 61870. BRYANT—28795, 50715. G. E. CO.—11221, 28795, 50715.

Clamp Receptacles and Rosettes: CONDULETTO (Crouse-Hinds)—C337G, C337, C442, C448, C449. ARROW  
E—8100, 59108. BRYANT—59108, 61988. FEDERAL—303, 304, 305. G. E. CO.—105001. PAISTE—  
59439, 61988. P. & S.—61877, 61988, 102703.

Polarity Plug Receptacle: HUBBELL—5757.

Types 00 and 00g covers have openings  $1\frac{3}{4}$  inches in diameter. Types 00k and 00kg covers have openings  $1\frac{1}{2}$  inches in diameter.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

For finishes, see note on page Cross Reference No. CH91.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. Black enameled and galvanized covers of all three styles may be assorted to make up a standard package. No other assortments are allowed.

Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity for those covers.






Conduletto clamp receptacles and rosettes, for use with Condulets of the S series, are listed on page Cross Reference No. CH190. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH95)



## TYPES SE, SEC, SEL, SET AND SEX CONDULET BODIES

Take Key, Keyless or Pull Receptacles; Rosettes; Pull Switch Rosettes,  
or Pull Switches Enumerated Below

	TYPE SE CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	SE1	SE2	SE3
	Standard Package .....	75	50	25
	Shipping Weight Std. Pkg. ....	155 lbs.	115 lbs.	70 lbs.
	TYPE SEC CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	SEC11	SEC22	SEC33
	Standard Package .....	75	50	25
	Shipping Weight Std. Pkg. ....	165 lbs.	125 lbs.	75 lbs.
	TYPE SEL CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	SEL11	SEL22	SEL33
	Standard Package .....	75	50	25
	Shipping Weight Std. Pkg. ....	165 lbs.	125 lbs.	75 lbs.
	TYPE SET CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	SET111	SET222	SET333
	Standard Package .....	75	50	25
	Shipping Weight Std. Pkg. ....	180 lbs.	140 lbs.	80 lbs.
	TYPE SEX CONDULET BODIES—Black Enamel Finish			
	Size in inches .....	1/2	3/4	1
	Catalogue Number .....	SEX1111	SEX2222	SEX3333
	Standard Package .....	75	50	25
	Shipping Weight Std. Pkg. ....	200 lbs.	155 lbs.	90 lbs.

Condulet bodies listed above take the following:

Receptacles, Key: ARROW E—4045, 7513, 7513W, 7536, 7536W, 8044, 8044W, 8080, 8080W. BRYANT—4043, 4513, 4536, 7513, 7536, all BL and BN bases. G. E. CO.—GE052, GE278, GE281, GE418, GE483, GE494. HUBBELL—3070, 3156, 3316, 3752. PAISTE—5473, 5476, 5569, 5571. P. & S.—7, 46, 814.

Receptacles, Keyless: ARROW E—40, 41, 85, 109, 4046, 7514, 7537, 8045, 8081, 62357, 103704. BRYANT—4031, 4046, 7514, 7537, 62357, all BL and BN bases. G. E. CO.—GE055, GE096, GE155, GE279, GE484, GE496, 62357. HUBBELL—3071, 3754. PAISTE—5474, 5477, 5570, 5572. P. & S.—1, 4, 40, 41, 85, 109, 62357, 103704.

Receptacles, Pull: ARROW E—4047, 4515, 4537, 8522, 8537. BRYANT—4047, 4515, 4537, all BL and BN bases. G. E. CO.—GE280, 88964. HUBBELL—3069, 3083, 3750, 3841. PAISTE—5475, 5478, 5587, 5588. P. & S.—128.

Rosettes: ARROW E—368, 369, 457, 525, 8074, 8075. BRYANT—368, 369, 457, all BL and BN bases. P. & S.—113, 199, 723, 1172, 1174.

Rosettes, Pull Switch: ARROW E—176, 179, 8605, 8608. BRYANT—All BL and BN bases. HUBBELL—5906, 5926, 5996, 6007. P. & S.—700.

Switches, Pull: ARROW E—174, 175, 177, 178, 8603, 8604, 8606, 8607. BRYANT—All BL and BN bases.

(Cross Reference No. CH93a)



## TYPES V, VA AND VC IRON CONDULETS

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding  $2\frac{3}{4} \times 5\frac{1}{4}$  Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard

For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the V series meet every requirement.

These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.



Type V  
(Black not included in list prices)

### TYPE V CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	V189	V289	V389
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	230 lbs.	180 lbs.	100 lbs.
	List Price, each.....	\$4.50	\$4.55	\$4.60
Complete, except Globe and Guard	Catalogue Number.....	V1	V2	V3
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	125 lbs.	100 lbs.	50 lbs.
	List Price, each.....	\$1.90	\$1.95	\$2.00



### TYPE VA CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	VA189	VA289	VA389
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	230 lbs.	180 lbs.	100 lbs.
	List Price, each.....	\$4.50	\$4.55	\$4.60
Complete, except Globe and Guard	Catalogue Number.....	VA1	VA2	VA3
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	125 lbs.	100 lbs.	50 lbs.
	List Price, each.....	\$1.90	\$1.95	\$2.00



### TYPE VC CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	VC1189	VC2289	VC3389
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	250 lbs.	190 lbs.	110 lbs.
	List Price, each.....	\$4.60	\$4.70	\$4.80
Complete, except Globe and Guard	Catalogue Number.....	VC11	VC22	VC33
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	135 lbs.	110 lbs.	60 lbs.
	List Price, each.....	\$2.00	\$2.10	\$2.20

For finishes, assortments and other important information, see note on the following page. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH98)



## TYPES VL, VT AND VX IRON CONDULETS

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding  $2\frac{3}{4}$  x  $5\frac{1}{4}$  Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and All Necessary Fastening Screws, and with or without Globe and Guard



## TYPE VL CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VL1189	VL2289	VL3389
	Standard Package .....	35	25	10
	Weight Std. Pkg. ....	250 lbs.	190 lbs.	110 lbs.
	List Price, each .....	\$4.60	\$4.70	\$4.80
Complete, except Globe and Guard	Catalogue Number .....	VL11	VL22	VL33
	Standard Package .....	35	25	10
	Weight Std. Pkg. ....	135 lbs.	110 lbs.	60 lbs.
	List Price, each .....	\$2.00	\$2.10	\$2.20



## TYPE VT CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VT1189	VT2289	VT3389
	Standard Package .....	35	25	10
	Weight Std. Pkg. ....	255 lbs.	195 lbs.	115 lbs.
	List Price, each .....	\$4.75	\$4.85	\$5.05
Complete, except Globe and Guard	Catalogue Number .....	VT111	VT222	VT333
	Standard Package .....	35	25	10
	Weight Std. Pkg. ....	140 lbs.	120 lbs.	70 lbs.
	List Price, each .....	\$2.15	\$2.25	\$2.45



## TYPE VX CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VX11189	VX22289	VX33389
	Standard Package .....	35	25	10
	Weight Std. Pkg. ....	265 lbs.	200 lbs.	120 lbs.
	List Price, each .....	\$4.85	\$5.05	\$5.20
Complete, except Globe and Guard	Catalogue Number .....	VX1111	VX2222	VX3333
	Standard Package .....	35	25	10
	Weight Std. Pkg. ....	150 lbs.	130 lbs.	80 lbs.
	List Price, each .....	\$2.25	\$2.45	\$2.60

Clear globes are regularly furnished on orders for complete Condulets.

Colored globes will be furnished with Condulets of the V series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, \$.30; green, blue or orange, \$.90; ruby, \$1.55.

Globes and guards for Condulets of the V series are made in one size only.

Padlock is not included in prices for Condulets of the V series, but will be furnished, specifically ordered.

**Finishes:** Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulets with plain and special finishes, aluminum Condulets with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Globes and Guards are listed separately on page Cross Reference No. CH173. Sealing plate is listed separately on page Cross Reference No. CH173. Gaskets are listed separately on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH99)



## TYPES VE, VF AND VD IRON CONDULETS

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding  $2\frac{3}{4} \times 5\frac{1}{4}$  Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard



Type VE  
(Padlock not included in list prices)

For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the V series meet every requirement.

These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.

### TYPE VE CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	VE189	VE289	VE389
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	250 lbs.	190 lbs.	100 lbs.
	List Price, each.....	\$4.75	\$4.85	\$4.95
Complete, except Globe and Guard	Catalogue Number.....	VE1	VE2	VE3
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	135 lbs.	110 lbs.	50 lbs.
	List Price, each.....	\$2.15	\$2.25	\$2.35



### TYPE VF CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	VF189	VF289	VF389
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	260 lbs.	200 lbs.	105 lbs.
	List Price, each.....	\$4.90	\$5.00	\$5.10
Complete, except Globe and Guard	Catalogue Number.....	VF1	VF2	VF3
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	145 lbs.	120 lbs.	55 lbs.
	List Price, each.....	\$2.30	\$2.40	\$2.50



### TYPE VD CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	VD1189	VD2289	VD3389
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	275 lbs.	210 lbs.	110 lbs.
	List Price, each.....	\$5.15	\$5.25	\$5.35
Complete, except Globe and Guard	Catalogue Number.....	VD11	VD22	VD33
	Standard Package.....	35	25	10
	Weight Std. Pkg.....	160 lbs.	130 lbs.	60 lbs.
	List Price, each.....	\$2.55	\$2.65	\$2.75

For finishes, assortments and other important information, see note on following page.  
Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH100)



## TYPES VK, VP AND VJ IRON CONDULETS

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 40-Watt or any Lamp with Dimensions not Exceeding  $2\frac{3}{4} \times 5\frac{1}{4}$  Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and All Necessary Fastening Screws, and with or without Globe and Guard



## TYPE VK CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VK189	VK289	VK389
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. .	260 lbs.	200 lbs.	105 lbs.
	List Price, each .....	\$4.90	\$5.00	\$5.10
Complete, except Globe and Guard	Catalogue Number .....	VK1	VK2	VK3
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. .	145 lbs.	120 lbs.	55 lbs.
	List Price, each .....	\$2.30	\$2.40	\$2.50



## TYPE VP CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VP189	VP289	VP389
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. .	260 lbs.	200 lbs.	105 lbs.
	List Price, each .....	\$4.90	\$5.00	\$5.10
Complete, except Globe and Guard	Catalogue Number .....	VP1	VP2	VP3
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. .	145 lbs.	120 lbs.	55 lbs.
	List Price, each .....	\$2.30	\$2.40	\$2.50



## TYPE VJ CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VJ189	VJ289	VJ389
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. .	280 lbs.	210 lbs.	110 lbs.
	List Price, each .....	\$5.15	\$5.25	\$5.35
Complete, except Globe and Guard	Catalogue Number .....	VJ1	VJ2	VJ3
	Standard Package .....	35	25	10
	Shipping Weight Std. Pkg. .	165 lbs.	130 lbs.	60 lbs.
	List Price, each .....	\$2.55	\$2.65	\$2.75

Clear globes are regularly furnished on orders for complete Condulets.

Colored globes will be furnished with Condulets of the V series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, \$.30; green, blue or orange, \$.90; ruby, \$1.55.

Globes and guards for Condulets of the V series are made in one size only.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulets with plain and special finishes, aluminum Condulets with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Globes and Guards are listed separately on page Cross Reference No. CH173. Sealing plate is listed separately on page Cross Reference No. CH173. Gaskets are listed separately on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

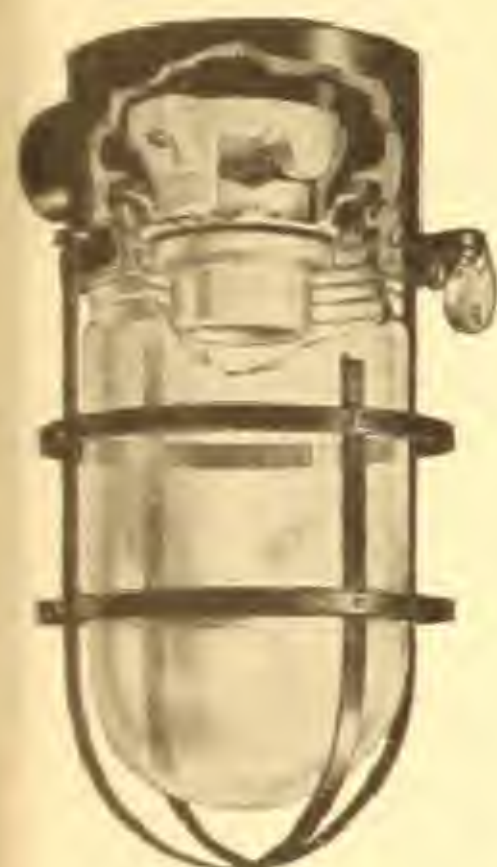
(Cross Reference No. CH101)



## TYPES VH, VHA AND VHC IRON CONDULETS

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 100-Watt,  
or any Lamp with Dimensions not Exceeding  $3\frac{3}{4} \times 7\frac{3}{4}$  Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and All Necessary  
Fastening Screws, and with or without Globe and Guard



Type VH  
(Padlock not included in list prices)

For marine work and in breweries, refineries, flour mills or  
wherever there is dampness, gas or fine dust, Condulets of the VH  
series meet every requirement.

These condulets remain vapor, gas and dust-proof even though  
globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can  
be mounted in these Condulets.

### TYPE VH CONDULETS—IRON—Black Enamel Finish

	Size in inches. . . . .	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VH189	VH289	VH389
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	285 lbs.	220 lbs.	120 lbs.
	List Price, each. . . .	\$5.40	\$5.45	\$5.50
Complete, except Globe and Guard	Catalogue Number	VH1	VH	VH3
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	135 lbs.	110 lbs.	60 lbs.
	List Price, each. . . .	\$2.35	\$2.40	\$2.45



### TYPE VHA CONDULETS—IRON—Black Enamel Finish

	Size in inches. . . . .	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHA189	VHA289	VHA389
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	285 lbs.	220 lbs.	120 lbs.
	List Price, each. . . .	\$5.40	\$5.45	\$5.50
Complete, except Globe and Guard	Catalogue Number	VHA1	VHA2	VHA3
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	135 lbs.	110 lbs.	60 lbs.
	List Price, each. . . .	\$2.35	\$2.40	\$2.45



### TYPE VHC CONDULETS—IRON—Black Enamel Finish

	Size in inches. . . . .	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number	VHC1189	VHC2289	VHC3389
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	295 lbs.	230 lbs.	125 lbs.
	List Price, each. . . .	\$5.50	\$5.60	\$5.65
Complete, except Globe and Guard	Catalogue Number	VHC11	VHC22	VHC33
	Standard Package.	35	25	10
	Ship. Wt. Std. Pkg.	145 lbs.	120 lbs.	65 lbs.
	List Price, each. . . .	\$2.45	\$2.55	\$2.60

For finishes, assortments and other important information, see note on following page.

Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH102)



## TYPES VHL, VHT AND VHX IRON CONDULETS

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 100-Watt or any Lamp with Dimensions not Exceeding  $3\frac{3}{4}$  x  $7\frac{3}{4}$  Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard



## TYPE VHL CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	VHL1189	VHL2289	VHL3389
	Standard Package.....	35	25	10
	Ship. Wt. Std. Pkg.....	295 lbs.	220 lbs.	120 lbs.
	List Price, each.....	\$5.50	\$5.60	\$5.65
Complete, except Globe and Guard	Catalogue Number.....	VHL11	VHL22	VHL33
	Standard Package.....	35	25	10
	Ship. Wt. Std. Pkg.....	140 lbs.	110 lbs.	60 lbs.
	List Price, each.....	\$2.45	\$2.55	\$2.60



## TYPE VHT CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	VHT11189	VHT22289	VHT33389
	Standard Package.....	35	25	10
	Ship. Wt. Std. Pkg.....	305 lbs.	230 lbs.	125 lbs.
	List Price, each.....	\$5.60	\$5.75	\$5.85
Complete, except Globe and Guard	Catalogue Number.....	VHT111	VHT222	VHT333
	Standard Package.....	35	25	10
	Ship. Wt. Std. Pkg.....	150 lbs.	120 lbs.	65 lbs.
	List Price, each.....	\$2.55	\$2.70	\$2.80



## TYPE VHX CONDULETS—IRON—Black Enamel Finish

	Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number.....	VHX111189	VHX222289	VHX333389
	Standard Package.....	35	25	10
	Ship. Wt. Std. Pkg.....	310 lbs.	240 lbs.	130 lbs.
	List Price, each.....	\$5.70	\$5.90	\$6.05
Complete, except Globe and Guard	Catalogue Number.....	VHX1111	VHX2222	VHX3333
	Standard Package.....	35	25	10
	Ship. Wt. Std. Pkg.....	160 lbs.	130 lbs.	70 lbs.
	List Price, each.....	\$2.65	\$2.85	\$3.00

Clear globes are regularly furnished on orders for complete Condulets.

Colored globes will be furnished with Condulets of the VH series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, \$.90; green, blue or orange, \$1.55; ruby, \$2.10.

Globes and guards for Condulets of the VH series are made in one size only.

Padlock is not included in prices for Condulets of the VH series, but will be furnished, if specifically ordered.

**Finishes:** Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulets with plain and special finishes, aluminum Condulets with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Globes and Guards are listed separately on page Cross Reference No. CH173. Sealing plate is listed separately on page Cross Reference No. CH173. Gaskets are listed separately on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH103)



## TYPES VHE, VHF AND VHD IRON CONDULETS

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 100-Watt, or any Lamp with Dimensions not Exceeding  $3\frac{3}{4} \times 7\frac{3}{4}$  Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard



Type VHE

Ballast not included in list prices

For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the VH series meet every requirement.

These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.

### TYPE VHE CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VHE189	VHE289	VHE389
	Standard Package .....	35	25	10
	Ship. Wt. Std. Pkg. ....	335 lbs.	260 lbs.	130 lbs.
	List Price, each .....	\$5.50	\$5.60	\$5.70
Complete, except Globe and Guard	Catalogue Number .....	VHE1	VHE2	VHE3
	Standard Package .....	35	25	10
	Ship. Wt. Std. Pkg. ....	185 lbs.	150 lbs.	70 lbs.
	List Price, each .....	\$2.45	\$2.55	\$2.65



### TYPE VHF CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VHF189	VHF289	VHF389
	Standard Package .....	35	25	10
	Ship. Wt. Std. Pkg. ....	335 lbs.	260 lbs.	130 lbs.
	List Price, each .....	\$5.75	\$5.85	\$5.95
Complete, except Globe and Guard	Catalogue Number .....	VHF1	VHF2	VHF3
	Standard Package .....	35	25	10
	Ship. Wt. Std. Pkg. ....	185 lbs.	150 lbs.	70 lbs.
	List Price, each .....	\$2.70	\$2.80	\$2.90



### TYPE VHD CONDULETS—IRON—Black Enamel Finish

	Size in inches .....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number .....	VHD1189	VHD2289	VHD3389
	Standard Package .....	35	25	10
	Ship. Wt. Std. Pkg. ....	350 lbs.	270 lbs.	140 lbs.
	List Price, each .....	\$5.90	\$6.00	\$6.10
Complete, except Globe and Guard	Catalogue Number .....	VHD11	VHD22	VHD33
	Standard Package .....	35	25	10
	Ship. Wt. Std. Pkg. ....	200 lbs.	160 lbs.	80 lbs.
	List Price, each .....	\$2.85	\$2.95	\$3.05

For finishes, assortments and other important information, see note on the following page.  
Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH104)



## TYPES VHK, VHP AND VHJ IRON CONDULETS

Vapor, Gas and Dust-Proof—Take any Regular Mazda Lamp up to and Including 100-Watt, or any Lamp with Dimensions not Exceeding  $3\frac{3}{4} \times 7\frac{3}{4}$  Inches  
Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard



## TYPE VHK CONDULETS—IRON—Black Enamel Finish

	Size in inches. ....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number ...	VHK189	VHK289	VHK389
	Standard Package ....	35	25	10
	Ship. Wt. Std. Pkg. ....	370 lbs.	290 lbs.	150 lbs.
	List Price, each. ....	\$5.75	\$5.85	\$5.95
Complete, except Globe and Guard	Catalogue Number ...	VHK1	VHK2	VHK3
	Standard Package ....	35	25	10
	Ship. Wt. Std. Pkg. ....	220 lbs.	180 lbs.	90 lbs.
	List Price, each. ....	\$2.70	\$2.80	\$2.90



## TYPE VHP CONDULETS—IRON—Black Enamel Finish

	Size in inches. ....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number ...	VHP189	VHP289	VHP389
	Standard Package ....	35	25	10
	Ship. Wt. Std. Pkg. ....	370 lbs.	290 lbs.	150 lbs.
	List Price, each. ....	\$5.75	\$5.85	\$5.95
Complete, except Globe and Guard	Catalogue Number ...	VHP1	VHP2	VHP3
	Standard Package ....	35	25	10
	Ship. Wt. Std. Pkg. ....	220 lbs.	180 lbs.	90 lbs.
	List Price, each. ....	\$2.70	\$2.80	\$2.90



## TYPE VHJ CONDULETS—IRON—Black Enamel Finish

	Size in inches. ....	$\frac{1}{2}$	$\frac{3}{4}$	1
Complete	Catalogue Number ...	VHJ1189	VHJ2289	VHJ3389
	Standard Package ....	35	25	10
	Ship. Wt. Std. Pkg. ....	375 lbs.	295 lbs.	155 lbs.
	List Price, each. ....	\$5.90	\$6.00	\$6.10
Complete, except Globe and Guard	Catalogue Number ...	VHJ11	VHJ22	VHJ33
	Standard Package ....	35	25	10
	Ship. Wt. Std. Pkg. ....	225 lbs.	185 lbs.	95 lbs.
	List Price, each. ....	\$2.85	\$2.95	\$3.05

Clear globes are regularly furnished on orders for complete Condulets.

Colored globes will be furnished with Condulets of the VH series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, \$.90; green, blue or orange, \$1.55; ruby, \$2.10.

Globes and guards for Condulets of the VH series are made in one size only.

Padlock is not included in prices for Condulets of the VH series but will be furnished, if specifically ordered.

**Finishes:** Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulets with plain and special finishes, aluminum Condulets with plain and black enamel finish, see page Cross Reference No. CH182.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Globes and Guards are listed separately on page Cross Reference No. CH173. Sealing plate is listed separately on page Cross Reference No. CH173. Gaskets are listed separately on page Cross Reference No. CH176. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH105)



## TYPE VS HAND LAMPS

Vapor, Gas and Dust-proof Portable Hand Lamp

Takes any Lamp with Dimensions not Exceeding  $2\frac{1}{2} \times 5\frac{1}{4}$  Inches\*

Furnished with Crouse-Hinds Receptacle C9514, Clear Globe, Guard and Gaskets

Type VS hand lamps are exceptionally well suited for use in garages, refineries, flour mills, or marine work, or wherever there is inflammable vapor, fine dust or moisture in the air.

Globes listed below can also be used on the V series of Condulets, and when so used take any lamp with dimensions not exceeding  $2\frac{1}{2} \times 4\frac{1}{4}$  inches. These dimensions permit the use of any lamp having a bulb that is no larger than an S14 or G18½.

The globes listed below are smaller than those listed on other pages and when used on Condulets of the V series require a correspondingly smaller guard than that listed on another page. This smaller guard is listed below.

Guards VS095 and VS950, listed below for use with type VS hand lamps, have a hook and are provided with a locking cam, which is held closed by a knurled screw. Guards V950 and V95, listed below for use with Condulets of the V series, have no hook and are provided with a locking cam, which is arranged to take a padlock.



Type VS Hand Lamp

### TYPE VS HAND LAMP—Aluminum

Finish .....	Scratch Brush
Catalogue Number .....	VS100895
Standard Package .....	35
Shipping Weight Std. Pkg. ....	105 lbs.
List Price, each .....	\$6.15

### TYPE VS HAND LAMP—Brass

Finish .....	Marine
Catalogue Number .....	VS10895
Standard Package .....	35
Shipping Weight Std. Pkg. ....	265 lbs.
List Price, each .....	\$9.00

### GLOBES—5 Inches in Overall Length

For Type VS Hand Lamps and Condulets of the V Series



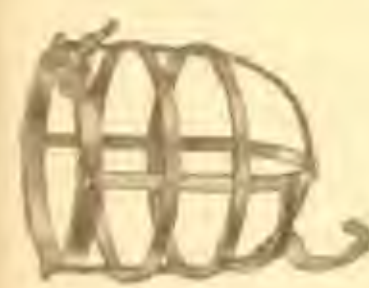
Color .....	Clear	Opal	Green	Blue	Orange	Ruby
Catalogue No. ....	V85	V415	V425	V435	V445	V455
Standard Pkg. ....	35	35	35	35	35	35
Wt. Std. Pkg. ....	40 lbs.	40 lbs.	40 lbs.	40 lbs.	40 lbs.	40 lbs.
List Price, each .....	\$ .80	\$1.10	\$1.70	\$1.70	\$1.70	\$2.35

### GUARDS—Brass

For Globes Listed on this Page

For Type VS Hand Lamps

For Condulets of the V Series



VS095

Galvan- ized	Marine
VS095	VS950
35	35
40 lbs.	40 lbs.
\$2.00	\$2.00

Finish	Marine	Black
Catalogue No...	V950	V95
Standard Pkg...	35	35
Wt. Std. Pkg...	40 lbs.	40 lbs.
List Price, each	\$1.80	\$1.80



V95

\*These dimensions permit the use of any lamp having a bulb that is no larger than an S19 or G18½.

\*\*The V series of Condulets are listed on pages Cross Reference Nos. CH98 to CH101, inclusive.

If specified on order, leather gaskets will be furnished with type VS hand lamp, instead of rubber gaskets, without extra charge.

(Cross Reference No. CH113a)



# TYPES W, WC, WL, WT AND WX CONDULET BODIES FOR PLUG RECEPTACLES—HUBBELL, 5624; GENERAL ELECTRIC CO., 102700



Broken-away View, showing  
Receptacle and Cover installed  
Prices do not include Receptacle or Cover

## TYPE W CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number .....	W1	W2	W3
Standard Package .....	100	75	25
Shipping Weight Std. Pkg. ....	115 lbs.	90 lbs.	45 lbs.
List Price, each .....	\$ .50	\$ .60	\$ .70



## TYPE WC CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number .....	WC11	WC22	WC33
Standard Package .....	100	75	25
Shipping Weight Std. Pkg. ....	140 lbs.	110 lbs.	55 lbs.
List Price, each .....	\$ .60	\$ .65	\$ .80



## TYPE WL CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number .....	WL11	WL22	WL33
Standard Package .....	100	75	25
Shipping Weight Std. Pkg. ....	140 lbs.	110 lbs.	55 lbs.
List Price, each .....	\$ .60	\$ .65	\$ .80



## TYPE WT CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number .....	WT111	WT222	WT333
Standard Package .....	100	75	25
Shipping Weight Std. Pkg. ....	150 lbs.	120 lbs.	60 lbs.
List Price, each .....	\$ .70	\$ .80	\$1.00



## TYPE WX CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number .....	WX1111	WX2222	WX3333
Standard Package .....	100	75	25
Shipping Weight Std. Pkg. ....	160 lbs.	150 lbs.	75 lbs.
List Price, each .....	\$ .80	\$ .90	\$1.15

## COVERS

For Types W, WC, WL, WT and WX Condulet Bodies—Black Enamel Finish  
For 1-2, 3-4 and 1-Inch Condulet Bodies

	For Attach. Plug		.....Style of Cover.....	Blank Metal		
	Sheet Steel	Cast Iron		Sheet Steel	Cast Iron	
	0	0g	...Catalogue Number...	0b	0bg	
	100	100	...Standard Package...	100	100	
	30 lbs.	30 lbs.	...Weight Std. Pkg....	35 lbs.	35 lbs.	
	\$ .10	\$ .20	...List Price, each....	\$ .10	\$ .20	

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

**Finishes:** Black enamel is the standard finish for both Condulet bodies and metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies and all galvanized finish on covers will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes on Condulet bodies and covers, cast brass and cast bronze Condulet bodies and brass and bronze covers with plain and special finishes, aluminum Condulet bodies and covers with plain and black enamel finish, see an other page.

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment of Condulet bodies is allowed.

Black enameled and galvanized covers of both styles for Condulet bodies of the W series may be assorted to make up a standard package.

(Cross Reference No. CH114a)



# TYPES WD, WDC, WDL, WDT AND WDX CONDULET BODIES

For Clamp Receptacles



## TYPE WD CONDULET BODIES—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	WD1	WD2	WD3
Standard Package	75	50	25
Shipping Weight Std. Pkg.	90 lbs.	75 lbs.	50 lbs.
List Price, each	\$ .60	\$ .70	\$ .80



Broken-away View, showing Receptacle and Cover Installed

## TYPE WDC CONDULET BODIES—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	WDC11	WDC22	WDC33
Standard Package	75	50	25
Shipping Weight Std. Pkg.	105 lbs.	90 lbs.	60 lbs.
List Price, each	\$ .70	\$ .75	\$ .90



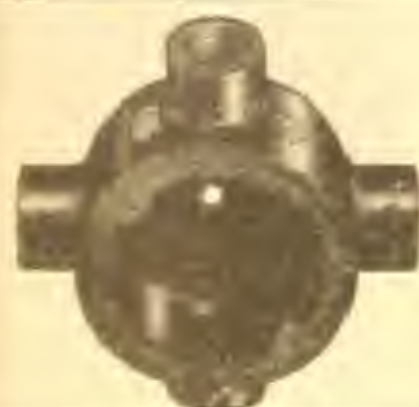
## TYPE WDL CONDULET BODIES—Black Enamel Finish

Size in inches	1/2	3/4-1/2	3/4
Catalogue Number	WDL11	WDL21	WDL22
Standard Package	75	50	50
Shipping Weight Std. Pkg.	105 lbs.	90 lbs.	90 lbs.
List Price, each	\$ .70	\$ .75	\$ .75



## TYPE WDT CONDULET BODIES—Black Enamel Finish

Size in inches	1/2	3/4-1/2-3/4*	3/4
Catalogue Number	WDT111	WDT212	WDT222
Standard Package	75	50	50
Shipping Weight Std. Pkg.	120 lbs.	100 lbs.	105 lbs.
List Price, each	\$ .80	\$ .90	\$ .90



## TYPE WDX CONDULET BODIES—Black Enamel Finish

Size in inches	1/2	3/4	1
Catalogue Number	WDX1111	WDX2222	WDX3333
Standard Package	75	50	25
Shipping Weight Std. Pkg.	140 lbs.	115 lbs.	75 lbs.
List Price, each	\$ .90	\$1.00	\$1.25

## COVERS—For Condulet Bodies of the WD Series—Black Enamel Finish Furnished with Fastening Screws

	Style of Cover	1 1/8" Opening†		1 1/2" Opening†		Black Metal	
		Sheet Steel	Cast Iron	Sheet Steel	Cast Iron	Sheet Steel	Cast Iron
	Catalogue No. . .	WD054	WD0054	WD048	WD0048	WD00	WD000
	Standard Pkg. . .	75	75	75	75	75	75
	Wt. Std. Pkg. . .	25 lbs.	40 lbs.	25 lbs.	40 lbs.	25 lbs.	45 lbs.
	List, each . . .	\$ .15	\$ .30	\$ .15	\$ .30	\$ .15	\$ .30

Prices for Condulet bodies do not include receptacles or covers.

\*Center hub is the smallest one.

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.

Condulet bodies listed above take the following:

†Cover with 1 1/8-inch opening: ARROW E—86, 440. BRYANT—4014, 4057. FEDERAL—303, 304, 305. P. & S. 80, 940.

†Cover with 1 1/2-inch opening: ARROW E—427, 439, 61577, 61578, 61877, 61988. BRYANT—4035, 4036, 61988. G. E. CO.—GE001, GE060, GE079, GE118, GE153, GE267, GE269, GE271. PAISTE—47566, 59439, 61988. P. & S.—427, 430, 437, 439, 61577, 61578, 61877, 61988, 102703, 102704.

(Cross Reference No. CH115a)



## TYPES Y, YC, YL, YR, YS, YD AND YX CONDULETS

## FOR CARTRIDGE OR PLUG FUSE CUT-OUTS

Furnished with Universal Cut-out Fastening Plate and all necessary Bolts and Screws

Type YL with Plug  
Fuse Cut-out Installed\*Type YC with Cover Sealed  
(Broken-away View, Showing Plug Fuse Cut-out Installed)Type YR with Cartridge  
Fuse Cut-out InstalledType YC with Plug  
Fuse Cut-out InstalledType YS with Cartridge  
Fuse Cut-out InstalledType Y with Plug  
Fuse Cut-out Installed

Type YD with Plug Fuse Cut-out Installed



Type YX with Cartridge Fuse Cut-out Installed

\*Condulets are not furnished with holes for sealing. Where sealing is desirable, holes can readily be drilled.

Cut-outs are enumerated under the listings of Condulets for which they are suitable. Condulet reducers are listed on page Cross Reference No. CH171. Condulets of the Y series are listed on pages Cross Reference Nos. CH119 to CH129, inclusive.

(Cross Reference No. CH118)



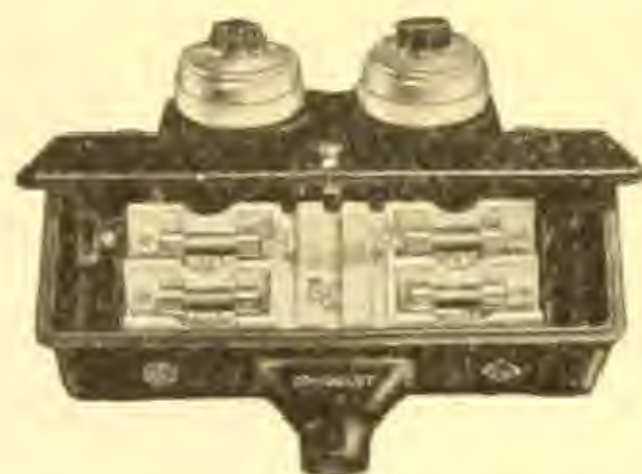
# TYPES Z, ZC, ZL, ZR, ZS, ZU, ZD, AND ZX CONDULETS

FOR CARTRIDGE OR PLUG FUSE CUT-OUTS AND SNAP OR PULL SWITCHES

Furnished with Universal Cut-out Fastening Plate, Adjustable Bar and Adapting Rings for Switches and All Necessary Bolts and Screws



Type ZL  
With Snap Switch and Plug Fuse  
Cut-out Installed



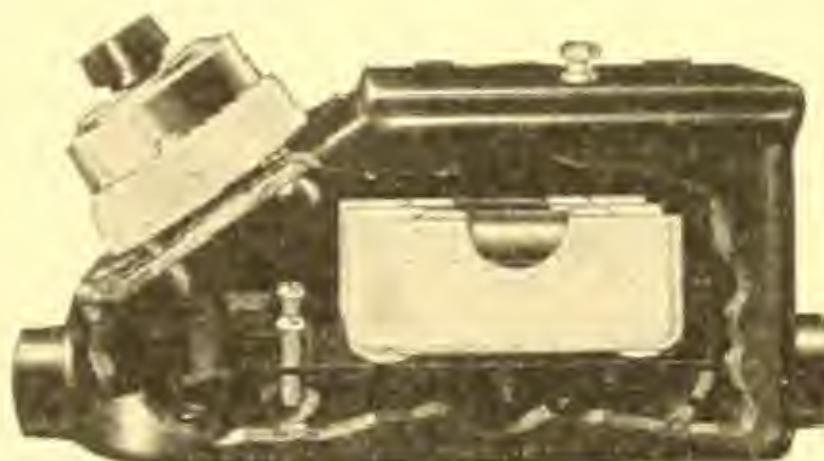
Type ZU  
With Snap Switches and Cartridge Fuse Cut-out Installed



Type ZR  
With Snap Switch and Cartridge Fuse  
Cut-out Installed



Type ZS  
With Snap Switch and Plug Fuse  
Cut-out Installed



Type ZC  
With Snap Switch and Cartridge Fuse Cut-out Installed  
(Broken-away View, Showing Cut-out)



Type Z  
With Snap Switch and Cartridge Fuse  
Cut-out Installed



Type ZD  
With Snap Switches and Cartridge Fuse Cut-out Installed



Type ZX  
With Snap Switches and Plug Fuse Cut-out Installed

## TYPE Z CONDULETS—DEAD END—Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line Cut-outs and 5, 10 or 20 Ampere Switches—Cut-outs and Switches not Furnished



Style of Cut-out	Size in inches . . . . .	1/2	3/4	1
2-wire	Catalogue Number . . . .	Z1302	Z2302	Z3302
	Standard Package . . . .	15	15	10
	Ship. Wt. Std. Pkg . . . .	120 lbs.	125 lbs.	85 lbs.
	List Price, each . . . . .	\$2.55	\$2.65	\$2.75
Style of Cut-out	Size in inches . . . . .	1/2	3/4	1
3-wire	Catalogue Number . . . .	Z1303	Z2303	Z3303
	Standard Package . . . .	15	15	10
	Ship. Wt. Std. Pkg . . . .	145 lbs.	150 lbs.	105 lbs.
	List Price, each . . . . .	\$3.00	\$3.10	\$3.20

For important information concerning Condulets listed above, see notes on page Cross Reference No. CH105. Condulet reducers are listed on page Cross Reference No. CH171.  
(Cross Reference No. CH136)



## TYPES ZGC AND ZGU CONDULETS

FOR CARTRIDGE OR PLUG FUSE CUT-OUTS AND GENERAL ELECTRIC 2 H. P.  
250-VOLT, THREE-PHASE, SNAP SWITCH 151394 WITH PROTECTIVE  
COVER FOR TEXTILE MILL INSTALLATIONS

Furnished with Universal Cut-out Fastening Plate and All Necessary Bolts and Screws



Type ZGC Conduit  
Showing Snap Switch and Cartridge Fuse  
Cut-out Installed



Type ZGU Conduit  
Showing Snap Switches and Cartridge Fuse  
Cut-out Installed

## TYPE ZGC CONDULETS—THROUGH FEED—Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line  
Cut-outs and G. E. Switch 151394—Cut-out and Switch not Furnished


	Style of Cut-out	Size in inches	$\frac{1}{2}$ — $\frac{1}{2}$	$\frac{3}{4}$ — $\frac{3}{4}$	1—1
	3-wire	Cat. No. .... Std. Pkg. .... Wt. Std. Pkg. List Price, ea.	ZGC11303 15 155 lbs. \$3.60	ZGC22303 15 160 lbs. \$3.70	ZGC33303 10 110 lbs. \$3.80

The universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs  
3-Wire: BRYANT—(Cartridge) 1924, (Plug) 62165. D. & W.—(Cartridge) 91103. G. E. CO.—(Cartridge) 34372,  
(Plug) 62165. NOARK—(Cartridge) 3328. PAISTE—(Cartridge) 72165, (Plug) 2165. SHAWMUT—(Car-  
tridge) 2079. TRUMBULL—(Cartridge) 21653, (Plug) 2165. WEBER—(Plug) 62165. UNION—(Cartridge) 2012.

## TYPE ZGU CONDULETS—Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Double Branch  
Cut-outs and G. E. Switch 151394—Cut-out and Switches not Furnished

	Style of Cut-out	Size in inches	$\frac{1}{2}$ — $\frac{1}{2}$ $\frac{3}{4}$	$\frac{1}{2}$ — $\frac{1}{2}$ 1	$\frac{1}{2}$ — $\frac{1}{2}$ $1\frac{1}{4}$
	3 to 3-wire	Cat. No. .... Std. Pkg. .... Wt. Std. Pkg. List Price, ea.	$\frac{3}{4}$ " main $\frac{1}{2}$ " branches ZGU121303 15 225 lbs. \$6.40	1" main $\frac{1}{2}$ " branches ZGU131303 10 110 lbs. \$6.50	$1\frac{1}{4}$ " main $\frac{1}{2}$ " branches ZGU141303 10 165 lbs. \$6.90

The universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs  
3 to 3-Wire: BRYANT—(Cartridge) 1928, (Plug) 62135. D. & W.—(Cartridge) 91100. G. E. CO.—(Cartridge)  
34374, (Plug) 62135. NOARK—(Cartridge) 3353. PAISTE—(Cartridge) 72135, (Plug) 2135. SHAWMUT—  
(Cartridge) 20835. TRUMBULL—(Cartridge) 21353, (Plug) 2135. WEBER—(Plug) 62135. UNION—(Car-  
tridge) 2029.

Types ZGC and ZGU Condulets have been referred to in previous literature as Types ZCG and  
ZUG, respectively.

For finishes and assortments see note on page Cross Reference No. CH91.

(Cross Reference No. CH1350)



# YPES RS ( $8\frac{1}{2} \times 8\frac{1}{2} \times 4$ ), RSM ( $8\frac{1}{2} \times 4\frac{1}{2} \times 4$ ) AND RSS ( $4\frac{1}{2} \times 4\frac{1}{2} \times 4$ ) CONDULET BODIES

Furnished with Cast Cover, Cover Gasket and Fastening Screws for Cover



Type RS Body with Cover

## CONDULET BODIES—Black Enamel Finish

Types	RS	RSM	RSS
Inside Dimen., inches	$8\frac{1}{2} \times 8\frac{1}{2} \times 4$	$8\frac{1}{2} \times 4\frac{1}{2} \times 4$	$4\frac{1}{2} \times 4\frac{1}{2} \times 4$
Catalogue Number...	RS1	RSM1	RSS1
Standard Package...	10	10	10
Ship. Wt. Std. Pkg...	190 lbs.	120 lbs.	105 lbs.
List Price, each.....	\$6.00	\$4.25	\$3.75

## CAST SIDE PLATES FOR TYPES RS, RSM, AND RSS CONDULET BODIES

Black Enamel Finish

Furnished with Gaskets and Fastening Screws



One Hub



Blank  
Reverse Side, Showing Gasket



Blank  
Reverse Side, Showing Gasket



One Hub



Two Hubs

## Side Plates for $8\frac{1}{2} \times 4$ -inch Sides of Types RS and RSM Condulet Bodies

Style of Plate	Size hub	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
-Hub	Cat. No.	RSP1	RSP2	RSP3	RSP4	RSP5	RSP6	RSP7
	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	120 lbs.	125 lbs.	130 lbs.	140 lbs.	145 lbs.	150 lbs.	155 lbs.
	List, each	\$1.85	\$1.90	\$1.95	\$2.00	\$2.05	\$2.10	\$2.25
-Hub	Size hubs	$\frac{1}{2}-\frac{1}{2}$	$\frac{3}{4}-\frac{3}{4}$	$1-\frac{1}{2}$	1-1	$1\frac{1}{4}-\frac{3}{4}$	$1\frac{1}{4}-1$	$1\frac{1}{4}-1\frac{1}{4}$
	Cat. No.	RSP11	RSP22	RSP31	RSP33	RSP42	RSP43	RSP44
	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	125 lbs.	140 lbs.	145 lbs.	150 lbs.	155 lbs.	160 lbs.	165 lbs.
	List, each	\$1.95	\$2.05	\$2.15	\$2.15	\$2.25	\$2.25	\$2.25
-Hub	Size hubs	$1\frac{1}{2}-1$	$1\frac{1}{2}-1\frac{1}{4}$	$1\frac{1}{2}-1\frac{1}{2}$	$2-\frac{3}{4}$	2-1	$2-1\frac{1}{2}$	2-2
	Cat. No.	RSP53	RSP54	RSP55	RSP62	RSP63	RSP65	RSP66
	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	165 lbs.	165 lbs.	170 lbs.	175 lbs.	175 lbs.	180 lbs.	185 lbs.
	List, each	\$2.40	\$2.40	\$2.40	\$2.60	\$2.60	\$2.60	\$2.60
-Hub	Size hubs	$\frac{1}{2}-\frac{1}{2}-\frac{1}{2}$	$\frac{3}{4}-\frac{3}{4}-\frac{3}{4}$	1-1-1	$1\frac{1}{4}-1\frac{1}{4}-\frac{3}{4}$	$1\frac{1}{4}-1\frac{1}{4}-1\frac{1}{4}$	$1\frac{1}{2}-1\frac{1}{2}-1$	$1\frac{1}{2}-1\frac{1}{2}-1\frac{1}{2}$
	Cat. No.	RSP111	RSP222	RSP333	RSP442	RSP444	RSP553	RSP555
	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	145 lbs.	150 lbs.	155 lbs.	160 lbs.	165 lbs.	170 lbs.	185 lbs.
	List, each	\$2.05	\$2.20	\$2.35	\$2.50	\$2.50	\$2.75	\$2.75

## Side Plates for $4\frac{1}{2} \times 4$ -inch Sides of Types RSM and RSS Condulet Bodies

Style of Plate	Size hub	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
-Hub	Cat. No.	RSMP1	RSMP2	RSMP3	RSMP4	RSMP5	RSMP6	RSMP7
	Std. Pkg.	40	40	40	40	40	40	40
	Wt. Pkg.	60 lbs.	65 lbs.	70 lbs.	70 lbs.	75 lbs.	80 lbs.	85 lbs.
	List, each	\$1.25	\$1.30	\$1.35	\$1.40	\$1.45	\$1.50	\$1.65

## Cast Covers—with Gasket

## Cast Blank Side Plates

or Condulet Bodies	RS	RSM	RSS	Dimensions in inches	$8\frac{1}{2} \times 4$	$4\frac{1}{2} \times 4$
Catalogue Number..	RSP8800	RSP8400	RSP4400	Catalogue Number..	RSP84400	RSP44400
Std. Pkg. (not ass't'd)	10	10	10	Standard Package..	40	40
Ship. Wt. Std. Pkg..	75 lbs.	45 lbs.	35 lbs.	Ship. Wt. Std. Pkg.	120 lbs.	60 lbs.
List Price, each.....	\$2.00	\$1.25	\$ .90	List Price, each.....	\$1.80	\$1.20

For finishes and assortments of Condulet bodies, see page Cross Reference No. CH 144a. Above side plates with black enameled or galvanized finish may be assorted to make up a standard package, regardless of style of plates. Gaskets are listed on page Cross Reference No. CH177. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH146)



## LO, CL AND LP SERIES CONDULET BODIES

LO SERIES—TYPES LO, LOA, LOC, LOL, LOCA, LOT AND LOX

CL SERIES—TYPES CL, CLA, CLC, CLL, CLT AND CLX

LP SERIES—TYPES LP, LPC AND LPT

FOR CEILING LAMP OUTLETS

Take Fittings or Fixtures Enumerated Below



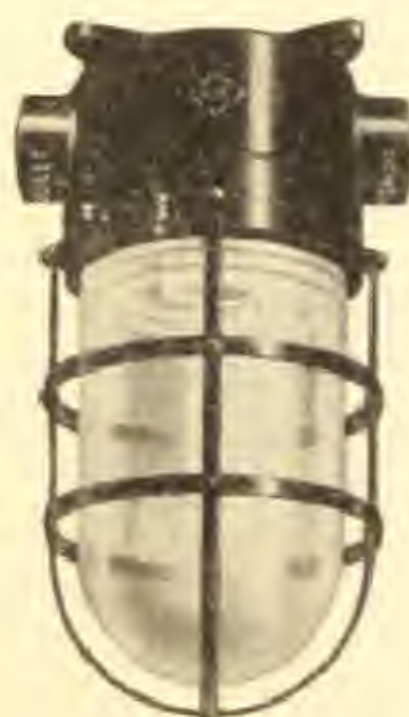
Type CLC  
Showing Crouse-Hinds Combination  
Reflector Holder and Socket Equipment  
CRSE1 and Reflector Mounted



Type LP  
Showing Crouse-Hinds Reflector and  
Receptacle Holder SRH2, Reflector SH2  
and Norbitt Conduletto Clamp Receptacle  
C337 Mounted



Type LOC  
Showing Crouse-Hinds Combination Reflector Holder  
and Socket Equipment CRSE1, Terminal Block  
CF101 and Reflector Mounted  
(Broken-away View)



Type L00  
Showing Crouse-Hinds Vapor, Gas and  
Dust-Proof Equipment VGDE1 Mounted



Type CL  
Showing S. C. B. and L. Co. Pendant  
No. 8294 and Reflector Mounted

Condulet bodies of the LO, CL and LP series take the following fittings or fixtures:

**CROUSE-HINDS**—Combination reflector holder and socket equipment CRSE1, and vapor, gas and dust-proof equipments VGDE1 and VGDE2, listed on page Cross Reference No. CH160a; reflector and receptacle holder SRH2, listed on page Cross Reference No. CH160a; reflector SH25, listed on page Cross Reference No. CH160a, and Norbitt Conduletto clamp receptacle C337, listed on page Cross Reference No. CH190. Receptacle mounting plate RMP1, listed on page Cross Reference No. CH160a and Norbitt Conduletto clamp receptacle C337, listed on page Cross Reference No. CH190; terminal block CF101 bodies listed on page Cross Reference No. CH160a; blank covers, listed on page Cross Reference No. CH150a. Gaskets for blank covers LOB00 and LOB000 are listed separately on page Cross Reference No. CH177.

**ADAMS & WESTLAKE CO.**—Fixtures S-912, 17080, and 18010.

**SAFETY CAR HEATING AND LIGHTING CO.**—Pendant 8294.

**Finishes:** Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Gray lead finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies gray lead finish. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. Special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, can be furnished on special order.

Black enameled, gray lead and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

Condulet bodies of the LO series are listed on page Cross Reference No. CH149.

Condulet bodies of the CL series are listed on page Cross Reference No. CH150.

Condulet bodies of the LP series are listed on page Cross Reference No. CH150a.

Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH148)



# TYPES LO, LOA, LOC, LOL, LOCA, LOT AND LOX CONDULET BODIES

FOR CEILING LAMP OUTLETS



## TYPE LO CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	LO1	LO2	LO3
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	120 lbs.	100 lbs.	80 lbs.
List Price, each.....	\$1.15	\$1.25	\$1.35



## TYPE LOA CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	LOA1	LOA2	LOA3
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
List Price, each.....	\$1.25	\$1.35	\$1.45



## TYPE LOC CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	LOC11	LOC22	LOC33
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
List Price, each.....	\$1.25	\$1.35	\$1.45



## TYPE LOL CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	LOL11	LOL22	LOL33
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
List Price, each.....	\$1.25	\$1.35	\$1.45



## TYPE LOCA CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	LOCA111	LOCA222	LOCA333
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	130 lbs.	110 lbs.	90 lbs.
List Price, each.....	\$1.35	\$1.45	\$1.55



## TYPE LOT CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	LOT111	LOT222	LOT333
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	125 lbs.	100 lbs.	85 lbs.
List Price, each.....	\$1.30	\$1.40	\$1.50



## TYPE LOX CONDULET BODIES—Black Enamel Finish

Size in inches.....	1/2	3/4	1
Catalogue Number.....	LOX1111	LOX2222	LOX3333
Standard Package.....	50	35	25
Shipping Weight Std. Pkg.....	130 lbs.	110 lbs.	90 lbs.
List Price, each.....	\$1.40	\$1.50	\$1.60


ature fastening screw holes are drilled and tapped for 10-30 screws.

(Cross Reference No. CH149)



# CL, CLA, CLC, CLL, CLT AND CLX CONDULET BODIES FOR CEILING LAMP OUTLETS

Take Fittings or Fixtures Enumerated Below

	<b>TYPE CL CONDULET BODIES—Black Enamel Finish</b>			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CL1	CL2	CL3
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	200 lbs.	140 lbs.	110 lbs.
	<b>TYPE CLA CONDULET BODIES—Black Enamel Finish</b>			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLA1	CLA2	CLA3
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	200 lbs.	140 lbs.	110 lbs.
	<b>TYPE CLC CONDULET BODIES—Black Enamel Finish</b>			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLC11	CLC22	CLC33
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	210 lbs.	145 lbs.	115 lbs.
	<b>TYPE CLL CONDULET BODIES—Black Enamel Finish</b>			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLL11	CLL22	CLL33
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	210 lbs.	145 lbs.	115 lbs.
	<b>TYPE CLT CONDULET BODIES—Black Enamel Finish</b>			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLT111	CLT222	CLT333
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	215 lbs.	150 lbs.	120 lbs.
	<b>TYPE CLX CONDULET BODIES—Black Enamel Finish</b>			
	Size in inches.....	1/2	3/4	1
	Catalogue Number.....	CLX1111	CLX2222	CLX3333
	Standard Package.....	50	35	25
	Shipping Weight Standard Package....	220 lbs.	155 lbs.	125 lbs.
	List Price, each.....	\$1.85	\$1.95	\$2.05

Fixture fastening screw holes are drilled and tapped for 10-30 screws.

Condulet bodies of the CL series take the following fittings or fixtures:

**CROUSE-HINDS**—Combination reflector holder and socket equipment CRSE1, and vapor, gas and dustproof equipments VGDE1 and VGDE2, listed on page Cross Reference No. CH160a; reflector and receptacle holder SRH2, listed on page Cross Reference No. CH160a; reflector SH25, listed on page Cross Reference No. CH160a, and Norbitt Conduletto clamp receptacle C337, listed on page Cross Reference No. CH190. Receptacle mounting plate RMP1, listed on page Cross Reference No. CH160a, and Norbitt Conduletto clamp receptacle C337, listed on page Cross Reference No. CH190; terminal block CF101, listed on page Cross Reference No. CH160a; blank covers, listed on page Cross Reference No. CH150a. Gaskets for blank covers LOB00 and LOB000 are listed separately on page Cross Reference CH177.

**ADAMS & WESTLAKE CO.**—Fixtures S-912, 17080 and 18010.

**SAFETY CAR HEATING AND LIGHTING CO.**—Pendant 8294.

Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH150)



## TYPES LP, LPC AND LPT CONDULET BODIES

Take Fittings or Fixtures Enumerated on Preceding Page



Showing Receptor Holder,  
Reflector and Receptacle Installed  
\*included in prices for Condulet Body

### TYPE LP CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	LP1	LP2	LP3
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	100 lbs.	80 lbs.	60 lbs.
List Price, each.....	\$1.15	\$1.25	\$1.35



### TYPE LPC CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	LPC11	LPC22	LPC33
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	110 lbs.	90 lbs.	65 lbs.
List Price, each.....	\$1.25	\$1.35	\$1.45



### TYPE LPT CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	LPT111	LPT222	LPT333
Standard Package.....	50	35	25
Ship. Weight Std. Pkg....	120 lbs.	100 lbs.	75 lbs.
List Price, each.....	\$1.30	\$1.40	\$1.50



### BLANK COVERS FOR LO, LP AND CL SERIES OF CONDULET BODIES

Furnished with Cover Fastening Screws and Gasket

Style .....	Cast	Sheet Metal
Catalogue Number.....	LOB00	LOB000
Standard Package.....	100	100
Ship. Weight Std. Pkg....	90 lbs.	65 lbs.
List Price, each.....	\$ .50	\$ .30

## TYPE QPB CONDULETS

### TAKE PLUG RECEPTACLES ENUMERATED



Type QPB  
(Broken-away View)  
Showing Plug Receptacle Mounted  
\*Receptacle not included in List Price

Condulets of this series are both weatherproof and dustproof, making them equally serviceable for outdoor or indoor installations. The door is held closed by a strong spring, when the plug is not inserted in receptacle.

### TYPE QPB CONDULETS—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number.....	QPB1	QPB2	QPB3
Standard Package.....	50	35	25
Shipping Weight Std. Pkg....	180 lbs.	135 lbs.	105 lbs.
List Price, each.....	\$1.90	\$2.00	\$2.20

Type QPB Condulets take the following plug receptacles:

ETLER-HAMMER—7618 (6 Amp.). G. E. CO.—49489, 102700 (10 Amp.). HUBBELL—5617, 5624 (10 Amp.), 5621 (20 Amp., Polarity).

(Cross Reference No. CH150a)



# TYPES BLMA, BLMB AND BLMC CONDULET BODIES FOR DECK SILL AND SIDE WALL LAMP OUTLETS

Take Fittings or Fixtures Enumerated Below



Type BLMA

Showing Crouse-Hinds Vapor, Gas and Dust-Proof Equipment VGDE1 Mounted



Type BLMB

Showing Crouse-Hinds Reflector and Receptacle Holder SRH2, Reflector SR25 and Norbitt Conduletto Clamp Receptacle C337 Mounted



Type BLMC

Showing Crouse-Hinds Combination Reflector Holder and Socket Equipment CRSE1 and Reflector Mounted



## TYPE BLMA CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number .....	BLMA1	BLMA2	BLMA3
Standard Package .....	50	35	25
Shipping Weight Std. Pkg. .	145 lbs.	110 lbs.	90 lbs.
List Price, each .....	\$1.35	\$1.50	\$1.65



## TYPE BLMB CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number .....	BLMB1	BLMB2	BLMB3
Standard Package .....	50	35	25
Shipping Weight Std. Pkg. .	145 lbs.	110 lbs.	90 lbs.
List Price, each .....	\$1.35	\$1.50	\$1.65



## TYPE BLMC CONDULET BODIES—Black Enamel Finish

Size in inches .....	1/2	3/4	1
Catalogue Number .....	BLMC11	BLMC22	BLMC33
Standard Package .....	50	35	25
Shipping Weight Std. Pkg. .	150 lbs.	120 lbs.	100 lbs.
List Price, each .....	\$1.45	\$1.60	\$1.75

Fixture fastening screw holes are drilled and tapped for 10-30 screws.

Condulet bodies of the BLM series take the following fittings or fixtures:

**CROUSE-HINDS**—Combination reflector holder and socket equipment CRSE1, and vapor, gas and dust-proof equipments VGDE1 and VGDE2, listed on page Cross Reference No. CH160a; reflector and receptacle holder SRH2, listed on page Cross Reference No. CH160a; reflector SR25 listed on page Cross Reference No. CH160a; and Norbitt Conduletto clamp receptacle C337, listed on page Cross Reference No. CH190.

**ADAMS & WESTLAKE CO.**—Fixtures S-912, 17080 and 18010.

**SAFETY CAR HEATING AND LIGHTING CO.**—Pendant S294.

For finishes and assortments, see note on page Cross Reference No. CH143.

Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH152)



## CONDULET EQUIPMENTS AND ATTACHMENTS

### COUSE-HINDS VAPOR, GAS, AND DUST- PROOF EQUIPMENTS

### HOLDERS FOR GLOBE, GUARD AND RECEPTACLE

VGDE1 and VGDE2 Consist of Guard, Globe,  
Receptacle, Holder and Gaskets

For  
VGDE1

For  
VGDE2



Furnished with Fastening Screws

VGDE1	VGDE2	...Cat. No...	CRSH1	CRSH2
35	35	...Std. Pkg...	35	35
145 lbs.	180 lbs.	Wt. Std. Pkg.	60 lbs.	75 lbs.
\$4.05	\$4.70	List Price, ea.	\$1.10	\$1.30



Equipment VGDE1 takes any lamp with dimensions not exceeding  $2\frac{3}{4} \times 5\frac{1}{4}$  inches. Equipment VGDE2 takes any lamp with dimensions not exceeding  $3\frac{3}{4} \times 7\frac{3}{4}$  inches.

Globes for equipments VGDE1 and VGDE2 are listed separately on page Cross Reference No. CH173. Globes for equipments VGDE1 and VGDE2 are listed separately on page Cross Reference No. CH173. Litt Conduletto clamp receptacle C337 for equipments VGDE1 or VGDE2 is listed separately on page Cross Reference No. CH190. Gaskets for equipments VGDE1 and VGDE2 are listed separately on page Cross Reference No. CH177. VGDE1 is for the BLM, DSO, DSP, CL, LO and LP Series of Condulet Bodies and types JRRH, JRRV, MOH and MOV Side Bracket Hoods. VGDE2 is for the BLM, CL, LO and LP Series of Condulet Bodies.

### COMBINATION REFLECTOR HOLDER AND SOCKET EQUIPMENT—Bronze

### REFLECTOR AND RECEPTACLE HOLDER

the BLM, DSO, DSP, CL, LO and LP Series of Condulet Bodies and Types JRRH, JRRV, MOH and MOV Side Bracket Hoods

Furnished Complete with Socket and necessary  
Fastening Screws

Furnished with necessary Fastening Screws



CRSE1	...Catalogue Number...	SRH2
20	...Standard Package...	50
70 lbs.	...Ship. Wt. Std. Pkg...	45 lbs.
\$6.00	...List Price, each....	\$ .50



Litt Conduletto clamp receptacle C337 for Crouse-Hinds reflector and receptacle holder SRH2, is listed on page Cross Reference No. CH190.

### REFLECTOR FOR HOLDERS SRH2, SRH3 Porcelain Enamel Finish

### REFLECTOR HOLDER For Types JRY, KRY and KRYA Condulet Bodies

Furnished with necessary Fastening Screws



SH25	...Catalogue Number...	SRH3
50	...Standard Package...	50
55 lbs.	...Ship. Wt. Std. Pkg...	60 lbs.
\$1.50	...List Price, each....	\$ .75



### TERMINAL BLOCK

the DSO, DSP, CL, LO, LP and SO Series of Condulet Bodies and Types JRR, KRR, JRM, KRM, JRS, KRS, JRY, KRY, KRYA and MOC Condulet Bodies

### RECEPTACLE MOUNTING PLATE

For the DSO, DSP, CL, LO and LP Series of Condulet Bodies and Types JRRH, JRRV, MOH and MOV Side Bracket Hoods

Furnished with necessary Fastening Screws



CF101	...Catalogue Number...	RMP1
50	...Standard Package...	50
25 lbs.	...Ship. Wt. Std. Pkg...	30 lbs.
\$ .50	...List Price, each....	\$ .25



Litt Conduletto clamp receptacle C337 for Crouse-Hinds receptacle mounting plate RMP1, is listed on page Cross Reference No. CH190.



### BEZEL—Brass—For Reflector SH25

...Catalogue Number...	Bezel 1
...Standard Package...	50
...Ship. Wt. Std. Pkg...	50 lbs.
...List Price, each....	\$1.00

(Cross Reference No. CH160a)



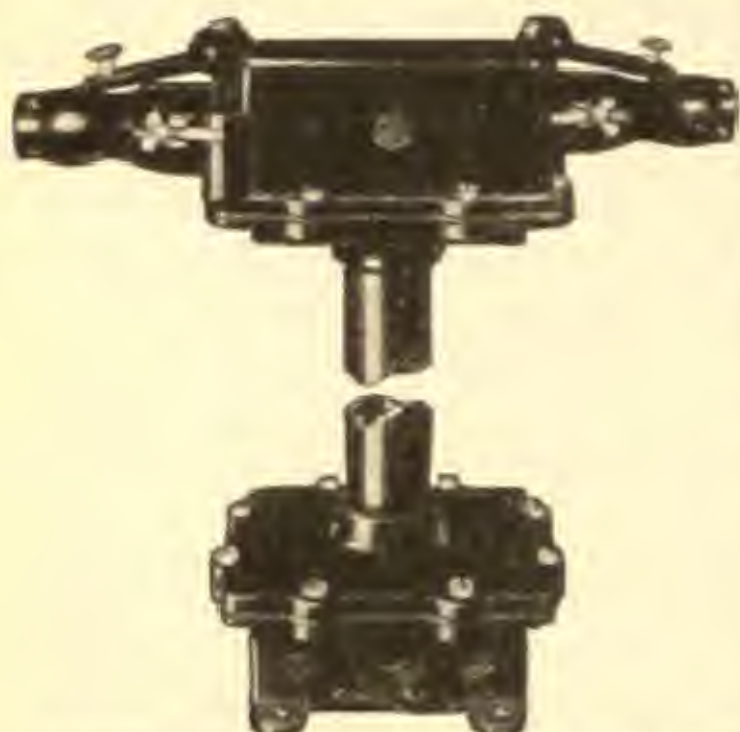
## TYPES UGCF, UGXF, UGCD, UGXD AND UGEM CONDULE

## YARD CHARGING CONDULETS, DOUBLE OUTFIT

Furnished Complete with Two 100-Ampere Rectangular Receptacles BR100, Spring Doors and necessary Gaskets and Fastening Screws, but without Plugs or 2-inch Conduit Stem. See note below.



Surface Style of Double Outlet Yard Charging Condulet  
Type UGCF with Plugs Inserted  
List Prices Do Not Include Plugs.



Underground Style of Double Outlet Yard Charging Condulet  
Type UGCD with Plugs Inserted  
List Prices Do Not Include Plugs or Conduit Stem



**TYPE UGEM CONDULET**  
Black Enamel Finish

Complete as Illustrated Directly Above

Catalogue Number...	UGEM100
Standard Package....	5
Weight Std. Pkg. ....	200 lbs.
List Price, each.....	\$33.75

## SURFACE STYLE

## Type UGCF Condulets—For Two Conduits

Size, in. . .	1	1 1/4	1 1/2	2
Cat. No. . .	UGCF33	UGCF44	UGCF55	UGCF66
Std. Pkg. . .	5	5	5	5
Wt. Pkg. . .	190 lbs.	195 lbs.	200 lbs.	205 lbs.
List, ea. . .	\$34.60	\$35.00	\$35.40	\$35.80

## Type UGXF Condulets—For Four Conduits

Size, in. . .	1	1 1/4	1 1/2	2
Cat. No. . .	UGXF3333	UGXF4444	UGXF5555	UGXF6666
Std. Pkg. . .	5	5	5	5
Wt. Pkg. . .	200 lbs.	205 lbs.	210 lbs.	215 lbs.
List, ea. . .	\$34.80	\$35.20	\$35.60	\$36.00

## UNDERGROUND STYLE

## Type UGCD Condulets—For Two Conduits

Size, in. . .	1	1 1/4	1 1/2	2
Cat. No. . .	UGCD33	UGCD44	UGCD55	UGCD66
Std. Pkg. . .	5	5	5	5
Wt. Pkg. . .	300 lbs.	300 lbs.	305 lbs.	310 lbs.
List, ea. . .	\$41.60	\$42.00	\$42.40	\$42.80

## Type UGXD Condulets—For Four Conduits

Size, in. . .	1	1 1/4	1 1/2	2
Cat. No. . .	UGXD3333	UGXD4444	UGXD5555	UGXD6666
Std. Pkg. . .	5	5	5	5
Wt. Pkg. . .	320 lbs.	320 lbs.	325 lbs.	330 lbs.
List, ea. . .	\$41.80	\$42.20	\$42.60	\$43.00



Type BPF



Type BPFA

Type BPB  
(Short Circuiting)PLUGS FOR YARD CHARGING RECEPTACLES  
100 Ampere Capacity

Type	BPF (Rectangular)	BPFA (Round)	BPB (Rectangular)
Use	Charging	Charging	Short Circuiting
Cat. No. . . . .	BPF100	BPFA100	BPB100
Std. Pkg. . . . .	10	10	10
Wt. Std. Pkg. . .	75 lbs.	90 lbs.	50 lbs.
List, each. . . . .	\$12.00	\$9.50	\$4.00

\*Condulets listed above are regularly furnished with two rectangular receptacles BR100, requiring the use of rectangular plugs BPF100 or BPB100, but if specifically ordered, two round receptacles BRA100, requiring the use of round plugs BPFA100 or M. C. B. standard plugs, will be furnished, at an advance of \$5.50 in the list price. Spring doors are regularly furnished on receptacle housings, but if specifically ordered, removable doors will be furnished, at the same price.

Rectangular receptacle BR100 and round receptacle BRA100 are listed separately on page Cross Reference No. CH166.

Gaskets are listed separately on page Cross Reference No. CH177. Condulet reducers are listed separately on page Cross Reference No. CH171.

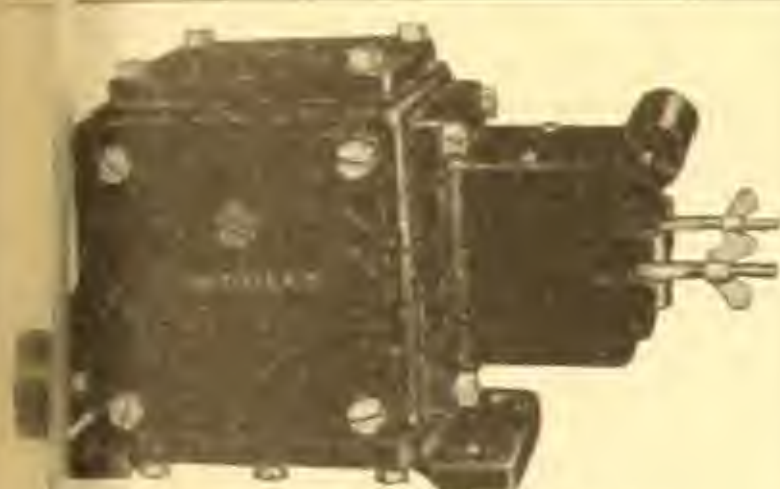
(Cross Reference No. CH163a)



## YARD CHARGING CONDULETS

### SINGLE OUTLET

Frame, Receptacle Housing and Plates Required for Making Up Type UGE Condulets  
For Either Surface or Underground Conduit Installations



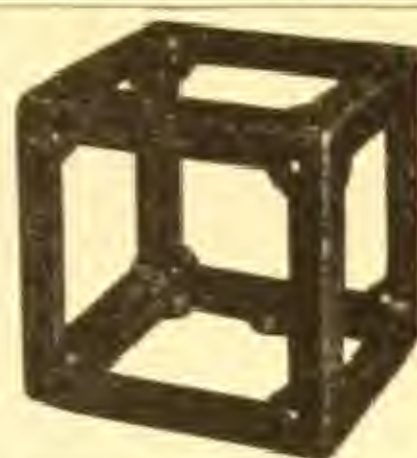
Style of Single Outlet Yard Charging Condulet

Type UGE

One of Many Possible Combinations

Made up From Material Listed Below

of Frame UGE100, Single Receptacle Housing UGEJ100,  
Supporting Plate UGED00, One Offset Hub Plate UGEE  
and Three Blank Plates UGEB00



FRAME FOR  
UGE CONDULETS



SINGLE RECEPTACLE  
HOUSING FOR TYPE UGE\*  
Furnished with one 100 Ampere  
Rectangular Receptacle, Spring  
Door, Fastening Screws  
and Gasket

UGE100	.... Catalogue Number....	UGEJ100
5	.... Standard Package....	5
70 lbs.	.... Ship. Wt. Std. Pkg....	80 lbs.
\$4.85	..... List Price, each.....	\$12.75

### PLATES FOR UGE FRAME—Black Enamel Finish Furnished with Gasket and Fastening Screws

inches.....	1	1 1/4	1 1/2	2
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#### CENTER HUB PLATE

Cat. No.	UGEB3	UGEB4	UGEB5	UGEB6
Std. Pkg.	25	25	25	25
Wt. Pkg.	150 lbs.	155 lbs.	160 lbs.	165 lbs.
List, each	\$3.35	\$3.50	\$3.65	\$3.80

#### OFFSET HUB PLATE

Cat. No.	UGEE3	UGEE4	UGEE5	UGEE6
Std. Pkg.	25	25	25	25
Wt. Pkg.	160 lbs.	165 lbs.	170 lbs.	175 lbs.
List, each	\$3.55	\$3.70	\$3.85	\$4.00

#### 90° HUB PLATE

Cat. No.	UGEF3	UGEF4	UGEF5	UGEF6
Std. Pkg.	25	25	25	25
Wt. Pkg.	190 lbs.	195 lbs.	200 lbs.	210 lbs.
List, each	\$3.90	\$4.05	\$4.20	\$4.35

#### TWO HUB PLATE

Cat. No.	UGEB33	UGEB44	UGEB55	UGEB66
Std. Pkg.	25	25	25	25
Wt. Pkg.	180 lbs.	185 lbs.	190 lbs.	195 lbs.
List, each	\$3.60	\$3.80	\$4.00	\$4.20

#### SUPPORTING PLATE



For Surface  
Mounting of  
Type UGE  
Condulets

Catalogue Number	UGED00
Standard Package	25
Ship. Wt. Std. Pkg.	180 lbs.
List Price, each...	\$3.90

#### FLANGE PLATE



For Mounting  
Type UGE Con-  
dulets on a Type  
UGE or UGE1 Con-  
duit Body

Catalogue Number	UGEH00
Standard Package	25
Ship. Wt. Std. Pkg.	135 lbs.
List Price, each...	\$3.75



BLANK  
CAST  
PLATE

Catalogue Number	UGEB00
Standard Package	25
Ship. Wt. Std. Pkg.	145 lbs.
List Price, each...	\$3.00

Rectangular receptacle BR100, requiring the use of rectangular plug BPF100 or BPB100, is regularly furnished on orders for single receptacle housing UGEJ100, but if specifically ordered, round receptacle BRA100, requiring the use of round plug BPFA100 or M. C. B. standard plugs, will be furnished, at an advance of \$2.75 in the list price. A spring door is regularly furnished on above receptacle housing, but if specifically ordered, removable door will be furnished, at the same price.

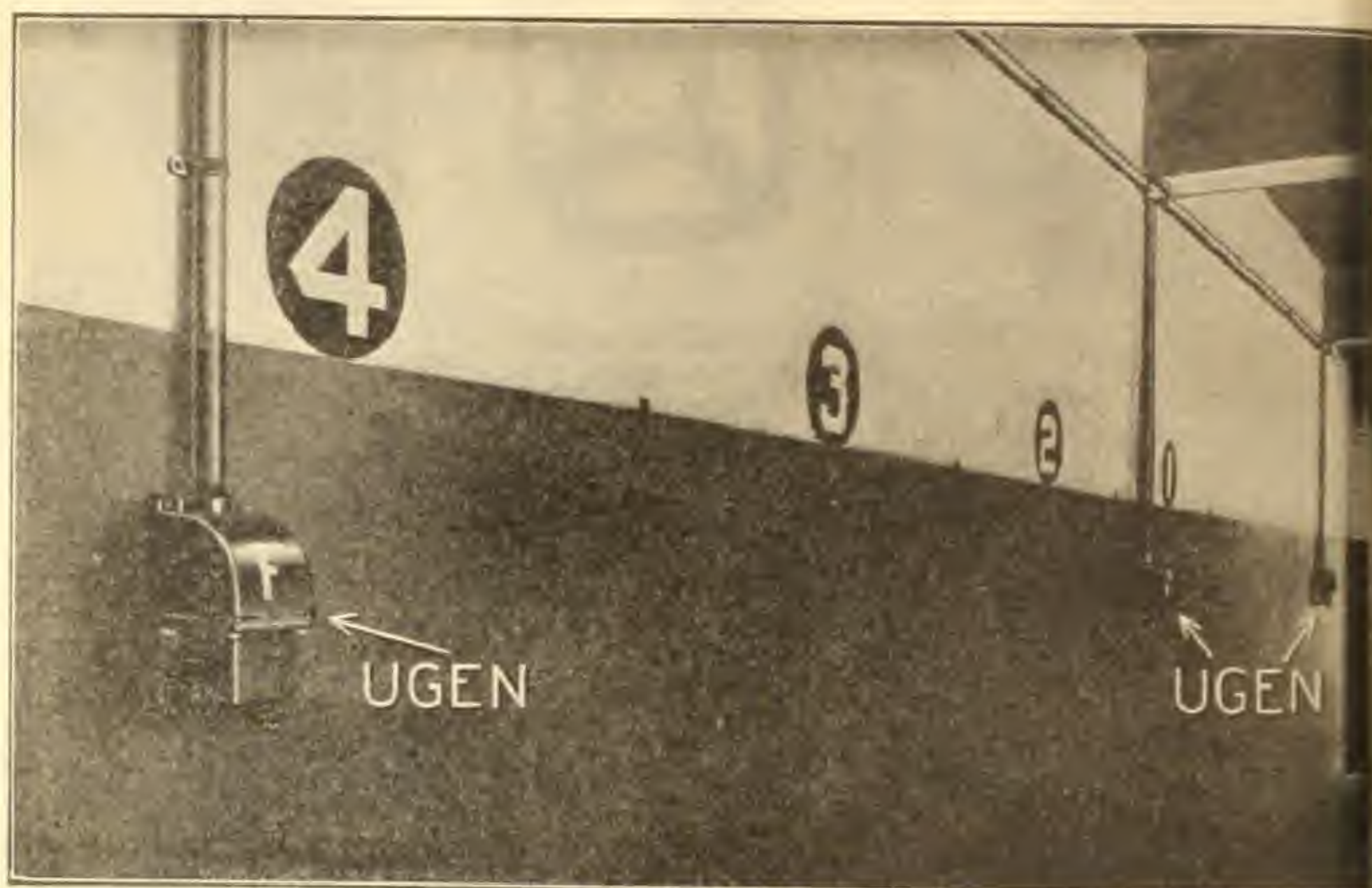
Frames and assortments for frame UGE100 and housing UGEJ100 are the same as specified on following page. Above plates with black enameled or galvanized finish may be assorted to make up a standard package, regardless of style of plates.

Rectangular receptacle BR100 and round receptacle BRA100 are listed on page Cross Reference No. CH166. Rectangular plugs BPF100 and BPB100 and round plug BPFA100 are listed on page Cross Reference No. CH163a. Gaskets are listed separately on page Cross Reference No. CH177. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH164)



## TYPE UGEN CONDULETS



Installation of Type UGEN Condulets for Charging Electric Baggage Trucks



Yard Installation of Type UGEN Condulets for Charging Storage Batteries in Cars



## TYPE UGEN CONDULETS

### WATER-PROOF CHARGING CONDULETS, FOR SURFACE CONDUIT INSTALLATIONS

Each is furnished Complete with Single Receptacle Housing, One 100-Ampere Rectangular Receptacle BR100, Spring Door, Fastening Screws and Gasket

See note below\*

#### TYPE UGEN CONDULETS—Black Enamel Finish



Complete as Illustrated at Left of Listings

Size in inches.....	1 1/4	1 1/2	2
Catalogue Number.....	UGEN4	UGEN5	UGEN6
Standard Package .....	5	5	5
Ship. Wt. Std. Pkg.....	140 lbs.	145 lbs.	155 lbs.
List Price, each.....	\$18.50	\$18.75	\$19.00



#### TYPE QD PLUG RECEPTACLE ATTACHMENT Black Enamel Finish

#### Hubbell 10-Ampere Plug Receptacle For QD10

Complete with Hubbell 10-Ampere Plug Receptacle

Furnished with Mounting Straps and Fastening Screws

Catalogue No.....	QD10	Catalogue No.....	C5614
Standard Package .....	5	Standard Package .....	50
Weight Std. Pkg.....	10 lbs.	Weight Std. Pkg.....	25 lbs.
List Price, each.....	\$3.25	List Price, each.....	\$ .65

Type QD plug receptacle attachment, at the right, is an auxiliary weather-housing, which can be attached, as shown in illustration, to any Conduit having surface to which the housing can be fastened. Provided there is sufficient wiring space interior. The surface to which type QD attachment is to be fastened must be properly drilled and tapped for mounting. If specified this drilling and tapping will be done at the factory, without extra charge. The receptacle is of Hubbell type and will take standard 10-ampere Hubbell plug caps. In use, the attachment is used chiefly to make connections for vacuum cleaners and hand lamps.

The UGEN Conduit is regularly furnished with rectangular receptacle BR100, requiring the use of rectangular plug BPF100 or BPB100, but if specifically ordered, round receptacle BRA100, requiring the use of round plug BPFA100 or any M. C. B. standard plug, will be furnished, at an advance of \$2.75 in the list price. A spring door is regularly furnished with above Conduit, but if specifically ordered, removable door will be furnished, at the same price.

The wire terminals of receptacle BR100 are drilled  $\frac{11}{16}$  of an inch in diameter and will take any size cable up to and including No. 1 B. & S. gauge.

When specified on the order, 200-ampere rectangular receptacle BR200 will be furnished with type UGEN Conduit, at an advance of \$1.25 in above list prices. When so arranged, the Conduit is suitable for low voltage electric welding machines of 200-ampere capacity.

The wire terminals of receptacle BR200 are drilled  $\frac{11}{16}$  of an inch in diameter and will take any size cable up to and including 00 B. & S. gauge.

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

Enamelled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

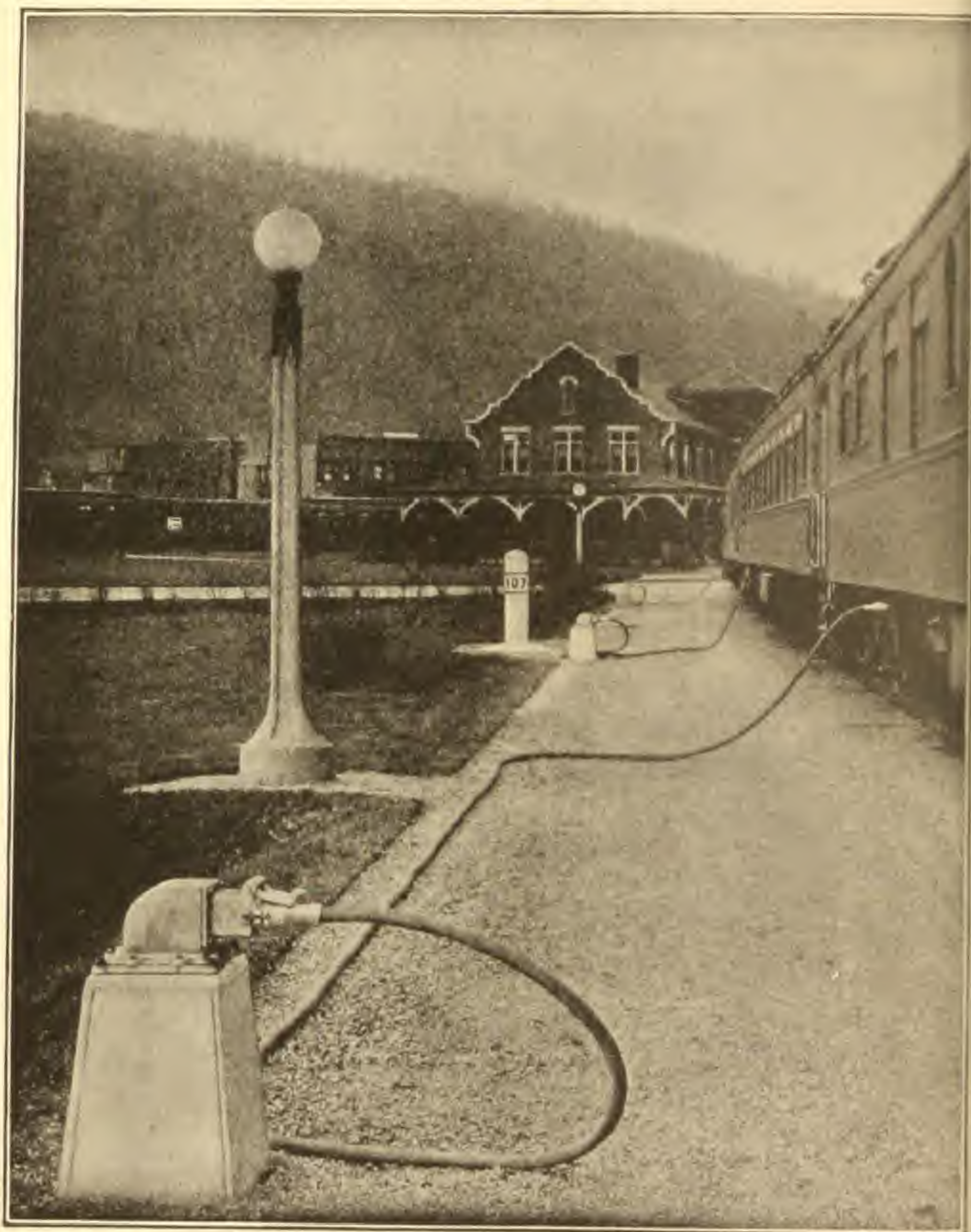
Receptacles and plugs for type UGEN Condulets are listed on page Cross Reference No. CH166, and for type UGEN Condulets are listed on page Cross Reference No. CH163a.

(Cross Reference No. CH163b)



## TYPE UGEL CONDULETS

YARD CHARGING CONDULETS, SINGLE RECEPTACLE HOUSING



Installation of Type UGEL Condulets for Charging Storage Batteries in Cars



## TYPE UGEL CONDULETS

### YARD CHARGING, SINGLE RECEPTACLE HOUSING

Furnished Complete with 100-Ampere, 2-Pole Rectangular Receptacle BR100, Spring Door and Gaskets, but without Plugs\*

# TYPE UGEL—With Base Plate

# TYPE UGEL—Without Base Plate

Type UGEL Single Receptacle Housing with Base Plate

Complete as described above and illustrated at the left.

Complete as described above and illustrated at the right.

Type UGEL Single Receptacle Housing without Base Plate

UGEL1010 5 145 lbs. \$24.50	Catalogue No. Standard Pkg. Wt. Std. Pkg. List, each	UGEL101 5 120 lbs. \$22.00
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Type UGEL Single Receptacle Housing with Type UGC Condulet Body

## TYPE UGEL WITH UGC CONDULETS—For Two Conduits

Complete as described in heading and illustrated at left.

Size in inches	1	1 1/4	1 1/2	2
Catalogue No.	UGEL331	UGEL441	UGEL551	UGEL661
Standard Pkg.	5	5	5	5
Wt. Std. Pkg.	225 lbs.	230 lbs.	235 lbs.	240 lbs.
List, each	\$28.35	\$28.75	\$29.15	\$29.55

## TYPE UGEL WITH UGX CONDULETS—For Four Conduits

Complete as described in heading and illustrated at left.

Catalogue No.	UGEL33331	UGEL44441	UGEL55551	UGEL66661
Standard Pkg.	5	5	5	5
Wt. Std. Pkg.	230 lbs.	235 lbs.	240 lbs.	245 lbs.
List, each	\$28.55	\$28.95	\$29.35	\$29.75

Type UGEL Single Receptacle Housing with Type UGC Condulet Body, Extension Plate CXH6, Extension Cover (16 and 2-inch Stem (Stem not furnished))

## TYPE UGEL WITH UGC CONDULETS—For Two Conduits

Complete with Extension Plate and Extension Cover for 2-inch Conduit Stem, as described in heading and illustrated at left.  
We do not furnish Conduit Stem.

Size in inches	1	1 1/4	1 1/2	2
Catalogue No.	UGEL3361	UGEL4461	UGEL5561	UGEL6661
Standard Pkg.	5	5	5	5
Wt. Std. Pkg.	240 lbs.	245 lbs.	250 lbs.	255 lbs.
List, each	\$36.10	\$36.50	\$36.90	\$37.30

## TYPE UGEL WITH UGX CONDULETS—For Four Conduits

Complete with Extension Plate and Extension Cover for 2-inch Conduit Stem, as described in heading and illustrated at left.  
We do not furnish Conduit Stem.

Size in inches	1	1 1/4	1 1/2	2
Catalogue No.	UGEL333361	UGEL444461	UGEL555561	UGEL666661
Standard Pkg.	5	5	5	5
Wt. Std. Pkg.	245 lbs.	250 lbs.	255 lbs.	260 lbs.
List, each	\$36.30	\$36.70	\$37.10	\$37.50

Condulets listed on this page are regularly furnished with rectangular receptacle BR100, requiring use of rectangular plug BPF100 or BPB100, but if specifically ordered, round receptacle BRA100, requiring use of round plug BPFA100 or any other M. C. B. standard plug, will be furnished, at an advance of \$2.75 in list price. Spring doors are regularly furnished on receptacle housings, but if specifically ordered, removable doors will be furnished, at same price.

Rectangular receptacle BR100 and round receptacle BRA100 are listed on page Cross Reference No. CH166. Rectangular plugs BPF100 and BPB100 and round plug BPFA100 are listed on page Cross Reference No. CH163a. Types UGC and UGX Condulet bodies are listed separately on page Cross Reference No. CH165. Gaskets are listed separately on page Cross Reference No. CH177.

(Cross Reference No. CH1000E11)



## TYPE UGEM CONDULETS



Installation of Type UGEM Double Outlet Yard Charging Condulets, Equipped with  
Auxiliary Plug Receptacle Attachment QD10



## TYPES UGC AND UGX CONDULET BODIES

Inside Dimensions: 6 $\frac{7}{8}$ x6 $\frac{7}{8}$ x3 Inches



UGC Condulet Body with Blank Cover CX00 Attached

A heavy grade rubber gasket makes it easy to take off and replace the cover.

Types UGC and UGX Condulets, being extra heavy, are particularly suited for use in railroad yards, manholes, subways, around coast defense fortifications and wherever a rugged water-tight Condulet is desired.

They can be used in combination with the yard charging Condulets, illustrated and listed on the two preceding pages, either for surface or under-ground conduit installations.

The cover is firmly held in place by brass cap screws, and a heavy gasket of high grade rubber securely seals the opening. The use of brass cap screws and a



### TYPE UGC CONDULET BODIES—For Two Conduits

Size in inches.....	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Catalogue Number..	UGC33	UGC44	UGC55	UGC66
Standard Package...	5	5	5	5
Weight Std. Pkg.....	110 lbs.	115 lbs.	120 lbs.	125 lbs.
List Price, each.....	\$5.60	\$6.00	\$6.40	\$6.80



### TYPE UGX CONDULET BODIES—For Four Conduits

Size in inches.....	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Catalogue Number..	UGX3333	UGX4444	UGX5555	UGX6666
Standard Package...	5	5	5	5
Weight Std. Pkg.....	115 lbs.	120 lbs.	125 lbs.	130 lbs.
List Price, each.....	\$5.80	\$6.20	\$6.60	\$7.00

### BLANK CAST COVER

### EXTENSION COVER—For Two-Inch Conduit Stem

#### FOR TYPES UGC AND UGX CONDULET BODIES



Furnished with Gasket and Fastening Screws

CX00	Catalogue Number..	CX6
5	Standard Package..	5
45 lbs.	Ship. Wt. Std. Pkg.	50 lbs.
\$3.25	List Price, each...	\$4.00



### DOUBLE RECEPTACLE HOUSING

Use with Types UGC and UGX Condulet Bodies. Complete with Two 100 Ampere Rectangular Receptacles BR100, Spring Doors, Gasket and Fastening Screws. See note below.\*

### EXTENSION PLATE

For Two-Inch Conduit Stem  
For Receptacle Housing CHXS100



CHXS100	Cat. No.....	CXH6
5	Std. Pkg.....	5
140 lbs.	Ship. Wt. Std. Pkg.	65 lbs.
\$29.00	List Price, each..	\$3.00



Receptacle housing listed above is regularly furnished with two rectangular receptacles BR100, requiring the use of rectangular plugs BPF100 or BPB100, but if specifically ordered, two round receptacles BRA100, requiring the use of round plugs BPFA100 or M. C. B. standard plugs, will be furnished, at an advance of \$5.50 in the list price. Spring doors are regularly furnished on receptacle housings, but if specifically ordered, removable doors will be furnished at the same price.

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package.

Gasket is listed separately on page Cross Reference No. CH177. Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CK165)

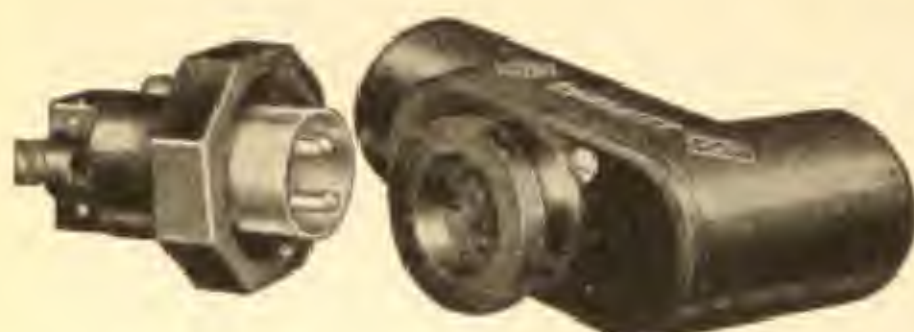


## TYPE BRL RECEPTACLES AND TYPE BP PLUGS

### CLASSIFICATION AND MARKER LAMP CONNECTION

For Use on Any 1 1/4-Inch Obround Condulet Body\*

Furnished with Gaskets and Fastening Screws

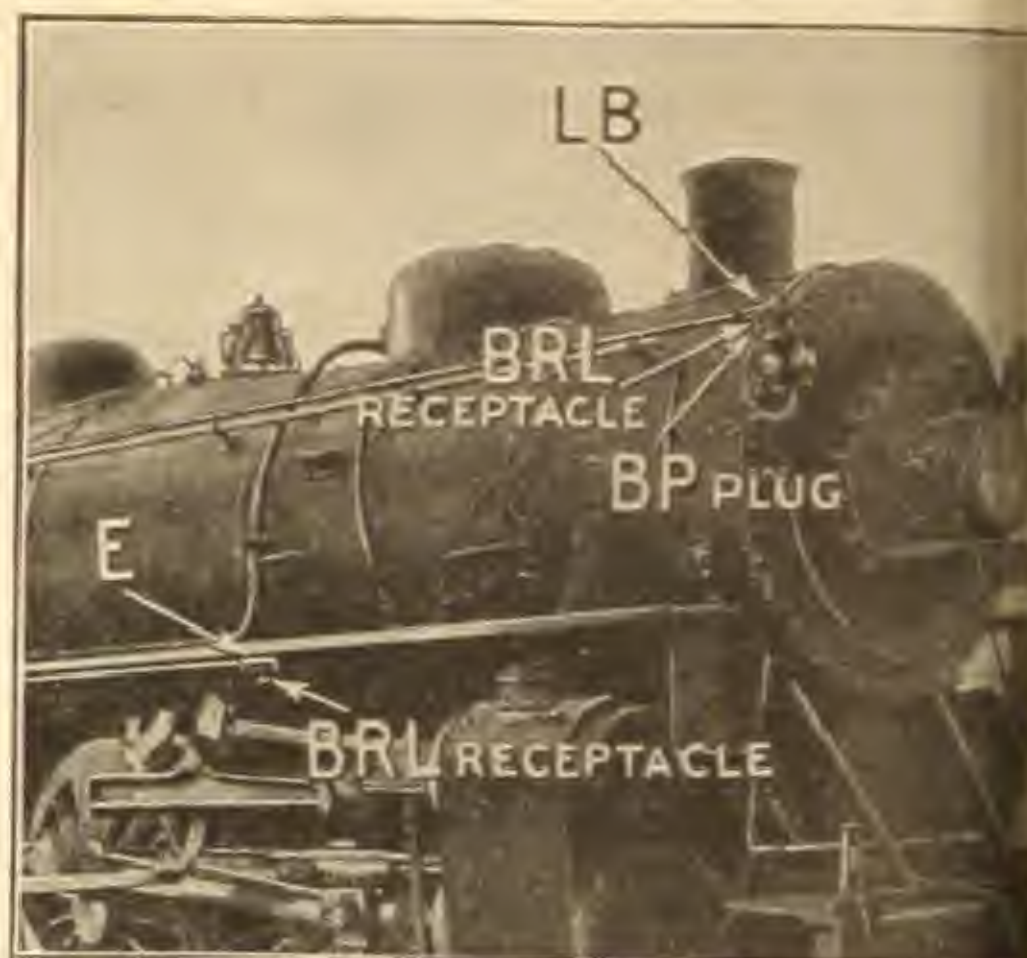


Type BP Plug

Type BRL Receptacle on  
Type LB Condulet Body

Type BRL plug receptacle and housing is a dependable electric receptacle connection for classification and marker lamps. It is intended to be used with a type BP plug (Catalogue Number, BP73022), furnished with brass clamping nut and arranged for armoured conductor.

The combination gives a weather-proof connection that can be quickly broken when it is desired to remove a lamp.



#### TYPE BRL RECEPTACLE AND HOUSING

Black Enamel Finish  
2-Pole, 30-Ampere, 250-Volt



For 1 1/4-Inch  
Obround Condulet  
Bodies

BRL473022  
25  
35 lbs.  
\$3.95

Catalogue Number  
Standard Package  
Weight Std. Pkg.  
List Price, each

#### TYPE BP PLUG

2-Pole, 30-Ampere, 250-Volt

For Type BRL  
Receptacle  
and Housing



BP73022  
25  
75 lbs.  
\$3.75

\*Condulet bodies with Obround openings are listed on pages Cross Reference No. CH21 to CH230 inclusive.

## TYPE LHSC SWITCH CONDULETS

### LOCOMOTIVE HEADLIGHT SWITCH COMPLETE

Type LHSC Switch Condulet consists of a compact, substantial cast-iron housing inclosing a rugged knife switch of special design. The switch is single pole, double throw, thus providing for dimming the headlight. A spring normally holds the switch in the off position. It is held in the full or dimming positions by interferences in the path of the operating handle.



#### TYPE LHSC—Black Enamel Finish

Size in inches . . . . .	3/4	1
Catalogue Number . . . . .	LHSC2305	LHSC3305
Standard Package . . . . .	10	10
Weight Standard Package . .	115 lbs.	120 lbs.
List Price, each . . . . .	\$7.50	\$7.65

**Finishes and Assortments:** Black enamel is the standard finish for Condulets. Galvanized finish on the exterior and black enamel finish on the interior of Condulets will be furnished at the same price as all black enamel finish when the order specifies galvanized finish. Black enameled and galvanized Condulets of the same type, size and form may be assorted to make up a standard package.

(Cross Reference No. CH330).



## TYPE MDA CONDULETS

Generator Disconnecter for Car Service

Furnished Complete with Terminal Block, Wire Hole Cover and all necessary Screws





Type MDA, 3-Pole  
With Cover Removed

Type MDA Condulet is designed to serve as a connection block for generator leads and car wires, on axle-lighted railway cars. Its arrangement prevents the making of wiring connections after proper connections have once been made.

The terminals are rigidly held in place on a composition block, the whole being inclosed in a substantial cast iron housing that protects the interior parts from damage by the elements and flying ballast. Access to the terminals is obtained by removing a sliding cover.

Type MDA Condulet will be furnished with an attachment for flexible conduit when the latter is used as a protection for the generator leads. The list price of this attachment is \$1.50; the standard package is 15.

### TYPE MDA CONDULETS—100-Ampere Capacity—Black Enamel Finish

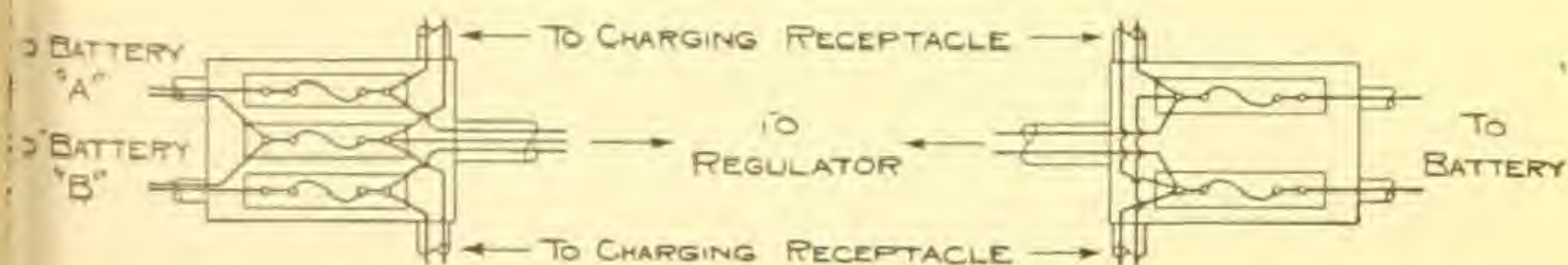
	3-Pole—125-Volt		Style	4-Pole—65-Volt		
	1 1/4	1 1/2	Size in inches	1 1/4	1 1/2	
	MDA438	MDA538	Cat. No.	MDA444	MDA544	
	15	15	Std. Pkg.	15	15	
	115 lbs.	120 lbs.	Wt. Std. Pkg.	130 lbs.	135 lbs.	
	\$8.15	\$8.35	List, each	On request	On request	

## TYPE FBX CONDULETS

FOR HOUSING BATTERY FUSES

Furnished Complete with Fuse Blocks for 250 Volt Open Link Fuses, but without Fuses

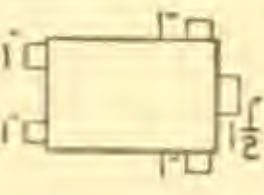
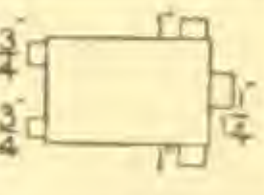
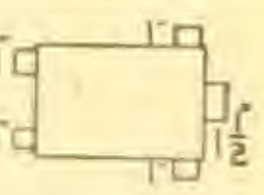
Fuse Screw Centers, 2 1/2 Inches



2-Pole, for Two Battery Systems — Wiring Diagram — 2-Pole, for One Battery Systems

### TYPE FBX CONDULETS—200-Ampere Capacity—Black Enamel Finish



Style	3-Pole	2-Pole	
Size in inches.			
Catalogue No.	FBX533333N	FBX432232N	FBX533332N
Std. Pkg.	15	15	15
Wt. Std. Pkg.	575 lbs.	550 lbs.	560 lbs.
List, each	\$28.85	\$23.85	\$24.10

For finishes and assortments, see note on page Cross Reference No. CH1000E33.

(Cross Reference No. CH1000E40)



## TYPE MDH CONNECTORS

### LOCOMOTIVE HAND-RAIL CONNECTORS

Complete with Connector Parts, Gasket and all necessary Bolts and Nuts



Type MDH

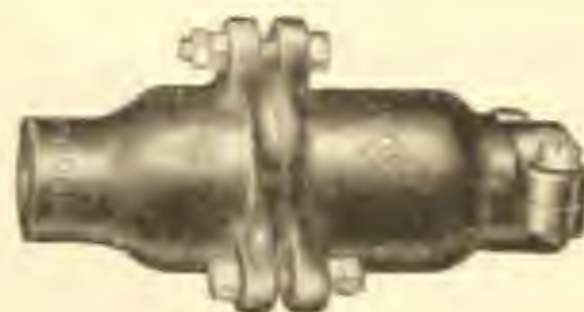
The two parts of the connector are polarized by permanently securing the clamping bolts in their respective lugs. After connections are once made, it is impossible to reconnect incorrectly the wiring system.

Type MDH hand rail connector is intended for installation in the hand rail or conduit on steam locomotives equipped with electric headlights.

It provides means for readily separating the electrical connections in the cab from those upon the boiler.

The connector is really a plug and receptacle, one portion of which is screwed to the hand rail or conduit while the other portion is connected to the cab by a short length of flexible conduit. The use of flexible conduit prevents undue strain being put upon the hand rail, due to vibration.

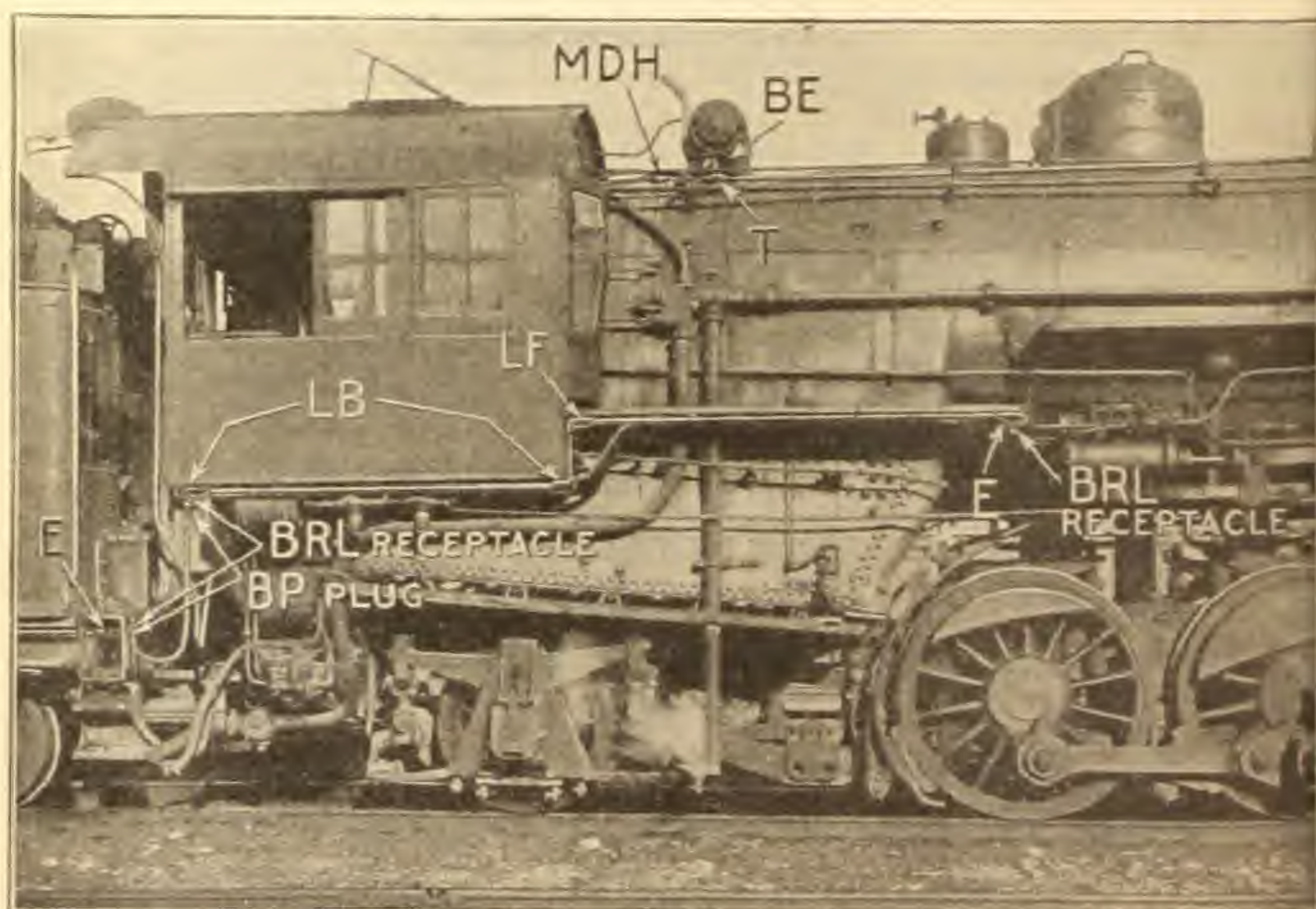
#### TYPE MDH—Black Enamel Finish 30-Ampere, 250-Volt



Size	4-Pole		6-Pole
	$\frac{3}{4}$ -Inch Rigid and $\frac{3}{4}$ -Inch Flexible Conduit	1-Inch Rigid and 1-Inch Flexible Conduit	1 $\frac{1}{4}$ -Inch Rigid and 1 $\frac{1}{4}$ -Inch Flexible Conduit
Cat. No.	MDH2304	MDH3304	MDH4304
Std. Pkg.	10	10	10
Wt. Std. Pkg.	110 lbs.	115 lbs.	135 lbs.
List, each	\$11.75	\$12.00	\$15.00

**Finishes and Assortments:** Black enamel is the standard finish for type MDH Connectors, but galvanized finish will be furnished at the same price as black enamel finish when the order specifies galvanized finish.

Black enamel and galvanized type MDH Connectors of the same size and same number of poles may be assorted to make up a standard package.





# TYPES LGSA AND LGWA LAMPS

## LOCOMOTIVE GAUGE LAMPS

Take Incandescent Lamps with S14, S17 or G18½ Bulbs

Furnished with Lamp Receptacle Provided with Lamp Grip Attachment

Black Enamel Finish on Exterior and Aluminum Finish on Interior

Types LGSA and LGWA gauge lamps are intended for housing the lamps which illuminate the various gauges, the water glass and the lubricator installed in the cabs of steam locomotives. These gauge lamps consist of cylindrical cast-iron housings, inclosing receptacles for incandescent lamps, with suitable openings for water glass or gauge illumination.

They can be furnished for either rigid conduit or flexible armored cord. A hinged door gives access to the interior. This door can be hinged so as to swing right or left as desired.

A heavy boss, located at the bottom of the housing, may be drilled and tapped for the supporting bracket which holds the gauge lamp in proper position with respect to the gauge illuminated.

The lamp receptacle furnished is of the brass armored type and is equipped with grip to prevent lamp from unscrewing, due to vibration.

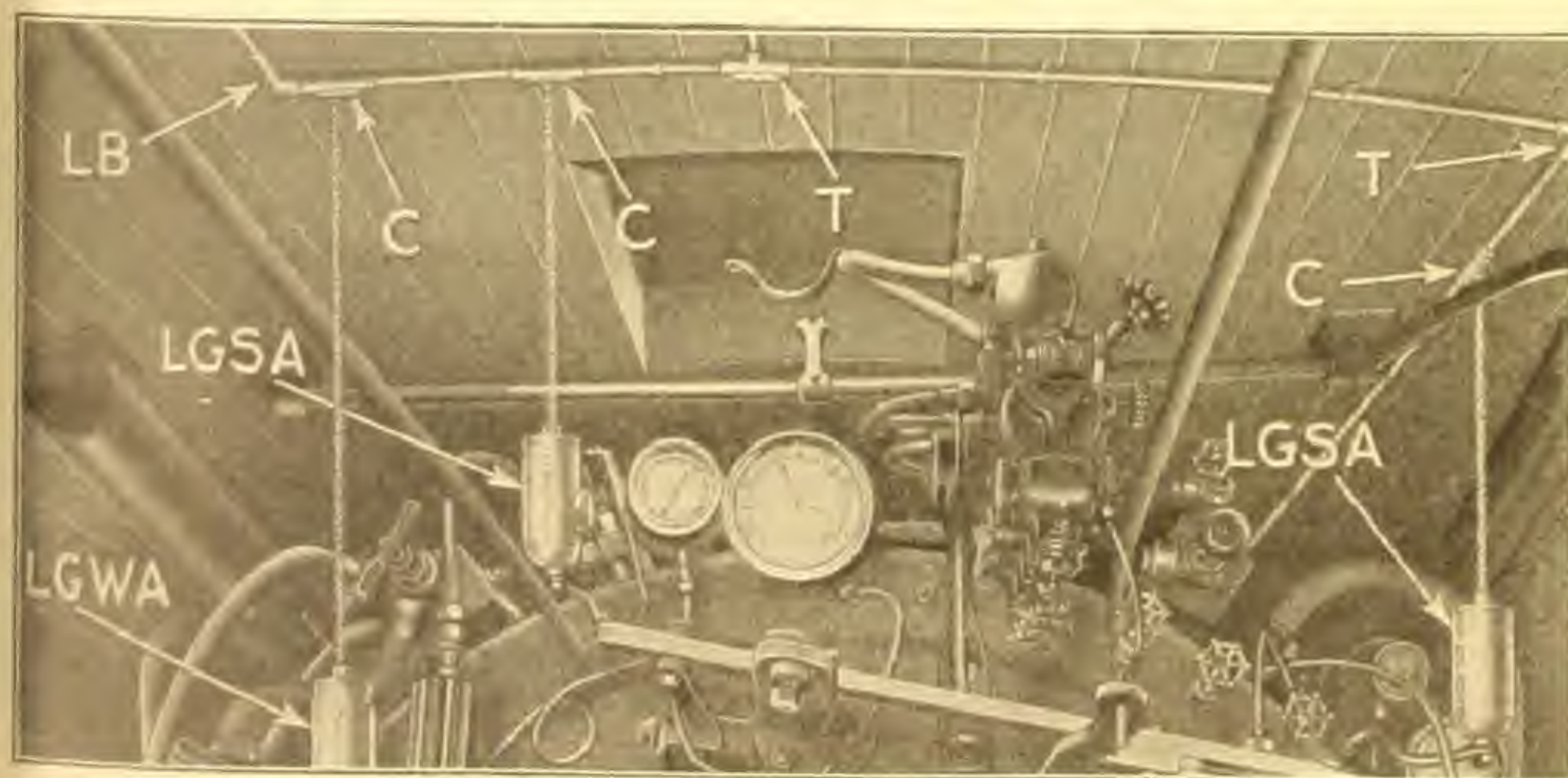


Type LGWA  
With Incandescent Lamp

TYPE LGSA			
For ½-Inch Rigid Conduit	Description	For Flexible Armored Cord	
LGSA1 10 90 lbs. \$5.00	Catalogue No. Std. Pkg. Wt. Std. Pkg. List, each	LGSA0 10 90 lbs. \$5.00	
TYPE LGWA			
For ½-Inch Rigid Conduit	Description	For Flexible Armored Cord	
LGWA1 10 90 lbs. \$5.00	Catalogue No. Std. Pkg. Wt. Std. Pkg. List, each	LGWA0 10 90 lbs. \$5.00	

Finishes and Assortments: Black enamel is the standard exterior finish for above gauge lamps, but galvanized finish will be furnished at the same price as black enamel finish when the order specifies galvanized finish.

Black enameled and galvanized gauge lamps of the same type may be assorted to make up a standard package.



(Cross Reference No. CH332).



## TYPES BRHS, BRH AND BRHA CONDULETS

## BATTERY CHARGING, SWIVEL MOUNTING

Type BRHS is furnished Complete with 100 Ampere Rectangular Receptacle, BR100. See note below.

Type BRH is furnished Complete with 100 Ampere Round Receptacle, BRA100. See note below.

Type BRHA is furnished Complete with 100 Ampere Round Receptacle, BRA100. See note below.

These Condulets are designed for storage battery charging, and are particularly intended for railroad cars and electric vehicles.

Two styles are made, one having swivel pedestal support and the other the M. C. standard bracket.

The receptacles furnished with these Condulets are of two types—rectangular and round. These receptacles are interchangeable in the different housings. The rectangular receptacle and plug are designed for extra heavy duty. The round receptacle and plug are so designed as to overcome the defects which have heretofore existed in receptacles and plugs of this design.

The designs of the plugs are such as to prevent a short circuit or reversal of polarity.



TYPE BRHS CONDULET

Complete with Housing, Receptacle and Swivel Pedestal

Cat. No. ....	BRHS100
Std. Pkg. ....	10
Ship. Wt. Std. Pkg.	190 lbs.
List Price, each...	\$14.50



TYPE BRH CONDULET

Housing and Receptacle only for M. C. B. Bracket

Cat. No. ....	BRH100
Std. Pkg. ....	10
Ship. Wt. Std. Pkg.	155 lbs.
List Price, each...	\$15.00



TYPE BRHA CONDULET

Complete with Housing, Receptacle and M. C. B. Bracket

Cat. No. ....	BRHA100
Std. Pkg. ....	10
Ship. Wt. Std. Pkg.	220 lbs.
List Price, each...	\$20.00

## RECEPTACLES FOR BATTERY AND YARD CHARGING CONDULETS—100 Ampere Capacity



Type BR, Rectangular

BR100
10
70 lbs.
\$7.75

.... Cat. No. ....
.... Std. Pkg. ....
Ship. Wt. Std. Pkg.
.. List Price, each..

Type BRA, Round

BRA100
10
80 lbs.
\$10.50



## PLUGS FOR BATTERY CHARGING CONDULETS—100 Ampere Capacity



Type BP, Rectangular

BP100
10
55 lbs.
\$12.00

.... Cat. No. ....
.... Std. Pkg. ....
Ship. Wt. Std. Pkg.
.. List Price, each..

Type BPA, Round

BPA100
10
55 lbs.
\$9.50



\*Type BRHS Condulet is regularly furnished with rectangular receptacle BR100, requiring the use of rectangular plug BP100, but if specifically ordered, round receptacle BRA100 requiring the use of round plug BPA100 or M. C. B. standard plug, will be furnished, at an advance of \$2.75 in the list price.

†Types BRH and BRHA Condulets are regularly furnished with round receptacle BRA100 requiring the use of round plug BPA100 or M. C. B. standard plug, but if specifically ordered, rectangular receptacle BR100, requiring the use of rectangular plug BP100, will be furnished, at a reduction of \$2.75 in the list price.

**Finishes:** Black enamel is the standard finish for Condulets and plug handles, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior or black enamel finish on interior of Condulets and plug handles will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish.

Black enameled and galvanized Condulets or plugs of the same type may be assorted to make up a standard package.

(Cross Reference No. CH166)



## TYPE BRHE CONDULET

### BATTERY CHARGING, SWIVEL MOUNTING

Furnished Complete with 100-Ampere, 125-Volt, 2-Pole Round Receptacle BRA100 and M. C. B. Bracket  
The Above Receptacle Takes Round Plug BPA100

Type BRHE Condulet complies with all the A. R. E. E. standards applying to battery charging devices. The receptacle housing is mounted in a M. C. B. bracket of improved design and is tilted so as to allow the receptacle to align itself with the direction of pull on the plug when latter is withdrawn.

Wires enter the Condulet from the bottom, and the receptacle housing, which is provided with a door having a concealed spring, is inclined at an angle. The combination of these features prevents the collection of dust, cinders, dirt and moisture within the receptacle. The opening where the wires can be sealed by wrapping tape around the wires where they leave the housing. Another advantage of having the housing set at an angle is that the plug pulls out straight with ease when the car moves away.

Receptacle BRA100, which is furnished with this Condulet, has self-aligning contact parts. As a further safe-guard against damage, that part of the housing around the opening of the receptacle is made extra long, so that it and the plug handle bear what little side strain there may be.



Type BRHE

#### TYPE BRHE CONDULET Black Enamel Finish

Complete as described in heading and illustrated at left

Catalogue Number	BRHE100
Standard Package	10
Ship. Wt. Std. Pkg.	275 lbs.
List Price, each	\$22.50

#### TYPE BPA PLUG — Aluminum Handle

#### TYPE BRA RECEPTACLE

For Above Condulet



100-Amp., 125-Volt, 2-Pole — Round			
BPA100	Catalogue Number	BRA100	
10	Standard Package	10	
55 lbs.	Ship. Wt. Std. Pkg.	80 lbs.	
\$9.50	List Price, each	\$10.50	



Finishes: Cast iron with black enamel finish is the standard for type BRHE Condulet and will be furnished, unless otherwise specified on the order. Aluminum with scratch brush finish is the standard for the handle of type BPA plug, and will be furnished, unless otherwise specified on the order.

Type BRHE Condulet with galvanized finish will be furnished at the same price as black enamel finish. Black enameled and galvanized type BRHE Condulets may be assorted to make up a standard package.



## TYPE YQ CONDULETS

For 2 or 3-Pole Plug Receptacles and 2 or 3-Wire Cartridge or Plug Fuse Cut-outs  
Furnished Complete with Crouse-Hinds Plug Receptacle and Crouse-Hinds Cut-out,  
but without Plug or Fuses



Type YQ  
(Broken-away View)  
Showing Cut-out PE53E and Receptacle RYQ303 Mounted, also  
Plug RQ303 and Padlock  
Plug and Padlock are not included in List Prices for Condulets

These Condulets provide a housing for a combination of plug receptacle and cut-out.

They are particularly suited for use in shops having portable tools, also in garages, laundries, railroad yards, etc. They are weather-proof and, therefore, can be installed either indoors or outdoors.

Two types of N. E. C. cut-outs are furnished—cartridge and plug. The cartridge type can be used on circuits up to 30 amperes, 250 volts, and the plug type on circuits up to 30 amperes, 125 volts.

The door over the cut-out is provided with a spring catch and can be locked with a padlock if desired. The door covering the plug opening is rabbetted and is kept closed by a plunger spring, when the plug is not in place, thus preventing the entrance of dust, moisture and insects.

## TYPE YQ CONDULETS—Black Enamel Finish

Complete with		Crouse-Hinds Plug Receptacle and 30 Amp., 250 Volt N. E. C. Cartridge Fuse Cut-out, but without Fuses			Crouse-Hinds Plug Receptacle and 30 Amp., 125 Volt N. E. C. Plug Fuse Cut-out, but without Fuses		
Style of Cut-out	Size in inches . .	1/2	3/4	1	1/2	3/4	1
2-wire	Catalogue No. . .	YQ1302E	YQ2302E	YQ3302E	YQ1302P	YQ2302P	YQ3302P
	Std. Pkg. . . . .	10	10	10	10	10	10
	Wt. Std. Pkg. . .	260 lbs.	265 lbs.	270 lbs.	275 lbs.	280 lbs.	290 lbs.
	List Price, each .	\$15.85	\$16.00	\$16.15	\$15.85	\$16.00	\$16.15
3-wire	Catalogue No. . .	YQ1303E	YQ2303E	YQ3303E	YQ1303P	YQ2303P	YQ3303P
	Std. Pkg. . . . .	10	10	10	10	10	10
	Wt. Std. Pkg. . .	300 lbs.	305 lbs.	310 lbs.	315 lbs.	320 lbs.	325 lbs.
	List Price, each .	\$18.75	\$19.00	\$19.25	\$18.75	\$19.00	\$19.25



## N. E. C. CUT-OUTS FOR TYPE YQ CONDULETS

For 30 Ampere, 250 Volt  
Cartridge Fuses

For 30 Ampere, 125 Volt  
Plug Fuses

2-wire	3-wire	Style of Cut-out.	2-wire	3-wire
PE52E	PE53E	.. Catalogue No. .	PE52P	PE53P
10	10	Standard Package	10	10
25 lbs.	30 lbs.	Weight Std. Pkg.	30 lbs.	35 lbs.
\$2.85	\$3.85	List Price, each.	\$2.85	\$3.85



## TYPE RYQ PLUG RECEPTACLES—30 Amp. Capacity

For Type YQ Condulets

2-pole	250 Volts	3-pole
RYQ302	.. Catalogue No. .	RYQ303
10	Standard Package	10
20 lbs.	Weight Std. Pkg.	25 lbs.
\$2.50	List Price, each.	\$3.50



## TYPE RQ PLUGS—30 Ampere Capacity

For Types RQH, RQK and RYQ Receptacles

2-Pole		3-Pole	
RQ302	Catalogue Number	RQ303	
25	Standard Package.	25	
60 lbs.	Weight Std. Pkg..	70 lbs.	
\$3.50	..List Price, each..	\$5.00	



(Cross Reference No. CH167a)



## TYPE YQQC CONDULETS

For Two 2-Pole Plug Receptacles and a 2 or 3-Wire, 30 or 60-Ampere Cut-out  
Furnished with Two 30-Ampere, 250-Volt, 2-Pole Receptacles RQJ302, Universal Cut-out Fastening Plate  
and necessary Bolts and Screws, but without Plugs or Cut-out



Type YQQC with Cartridge Fuse Cut-out  
and One Type RQ Plug Inserted

Type YQQC Condulets meet the requirements for a weather-proof, fused cut-out with two plug receptacles. They are especially valuable for use in garages, laundries, railroad shops or yards, round-houses and similar places.

The door over the cut-out compartment is rabbetted and is provided with a spring catch, with which a padlock can be used, if desired. Doors over the receptacle openings also are rabbetted, and can be padlocked.

Strong, concealed springs keep doors over receptacle openings closed when the plugs are withdrawn.

### TYPE YQQC CONDULETS—Through Feed



Complete as described in heading and illustrated at left

Size in inches	$\frac{1}{2}$	$\frac{3}{4}$
Catalogue Number	YQQC11302	YQQC22302
Standard Package	10	10
Ship. Wt. Std. Pkg.	275 lbs.	280 lbs.
List Price, each	\$17.35	\$17.50
Size in inches	1	$1\frac{1}{4}$
Catalogue Number	YQQC33302	YQQC44302
Standard Package	10	10
Ship. Wt. Std. Pkg.	285 lbs.	290 lbs.
List Price, each	\$17.65	\$17.80



TYPE RQJ RECEPTACLE—30-Ampere, 250-Volt, 2-Pole  
For Above Condulets. Takes Plug RQ302

Catalogue Number	RQJ302
Standard Package	25
Shipping Weight Std. Pkg.	30 lbs.
List Price, each	\$2.00

The universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs:

30-Ampere, 250-Volt, Cartridge and 30-Ampere, 125-Volt, Plug Fuse Cut-outs

Wire: BRYANT—(Cartridge) 1917, (Plug) 62965. D. & W.—(Cartridge) 91102. G. E. CO.—(Cartridge) 34367, (Plug) 62965. NOARK—(Cartridge) 3327. PAISTE—(Cartridge) 72965, (Plug) 2965. SHAWMUT—(Cartridge) 2077. TRUMBULL—(Cartridge) 29653, (Plug) 2965. WEBER—(Plug) 62965. UNION—(Cartridge) 2010.

Wire: BRYANT—(Cartridge) 1924, (Plug) 62165. D. & W.—(Cartridge) 91103. G. E. CO.—(Cartridge) 34372, (Plug) 62165. NOARK—(Cartridge) 3328. PAISTE—(Cartridge) 72165, (Plug) 2165. SHAWMUT—(Cartridge) 2079. TRUMBULL—(Cartridge) 21653, (Plug) 2165. WEBER—(Plug) 62165. UNION—(Cartridge) 2012.

60-Ampere, 250-Volt, Cartridge Fuse Cut-outs

Wire: BRYANT—(Cartridge) 1918. D. & W.—(Cartridge) 91108. G. E. CO.—(Cartridge) 34376. NOARK—(Cartridge) 3329. PAISTE—(Cartridge) 82965. SHAWMUT—(Cartridge) 2078. TRUMBULL—(Cartridge) 29656. UNION—(Cartridge) 2011.

Plug RQ302 is listed on page Cross Reference No. CH1000E8

(Cross Reference No. CH1000E13)



## TYPES RQH AND RQK RECEPTACLES AND TYPE RQ PLUGS

Two-Pole Types RQH and RQK Receptacles are for use with Form 10 Condulets of the QH and QK Series, respectively

Three-Pole Types RQH and RQK Receptacles are for use with Form 20 Condulets of the QH and QK Series, respectively



Type QHC  
Showing Crouse-Hinds Plug Receptacle RQH302  
Mounted (Door Open)



Type QEA  
Showing Crouse-Hinds Plug Receptacle RQH302  
Mounted





Type QEC  
With Plug Inserted



Receptacles and plugs (except plug handles which are cast iron) are of moulded, insulating composition to which the contacts are firmly secured. A rib on the plug matches a recess in the receptacle, preventing reversal of polarity. Condulets of the QH series, with which type RQH receptacles are used, have hinged doors which can be closed and locked after the plugs are removed.

These plugs and receptacles are exceptionally suited for use in freight houses, round houses, automobile garages, work shops, and similar installations.



### TYPE RQH RECEPTACLES—30 Ampere Capacity For Condulets of the QH Series

	2-Pole		3-Pole		
	For Form 10 Condulet		For Form 20 Condulet		
	RQH302*	Catalogue Number	RQH303*	Catalogue Number	
	25	Standard Package.	25	Standard Package.	
	30 lbs.	Weight Std. Pkg.	30 lbs.	Weight Std. Pkg.	
	\$2.00	List Price, each.	\$3.00	List Price, each.	

### TYPE RQK RECEPTACLES—30 Ampere Capacity For Condulets of the QK Series

	2-Pole		3-Pole		
	For Form 10 Condulet		For Form 20 Condulet		
	RQK302†	Catalogue Number	RQK303*	Catalogue Number	
	25	Standard Package.	25	Standard Package.	
	30 lbs.	Weight Std. Pkg..	30 lbs.	Weight Std. Pkg..	
	\$2.00	List Price, each..	\$3.00	List Price, each..	

### TYPE RQ PLUGS—30 Ampere Capacity For Types RQH, RQK and RYQ Receptacles

	2-Pole		3-Pole		
	For Form 10 Condulet		For Form 20 Condulet		
	RQ302	Catalogue Number	RQ303	Catalogue Number	
	25	Standard Package.	25	Standard Package.	
	60 lbs.	Weight Std. Pkg..	70 lbs.	Weight Std. Pkg..	
	\$3.50	List Price, each..	\$5.00	List Price, each..	

\*To be mounted on fastening strap furnished with the Condulet. †Furnished with special mounting strap.

Condulets that take type RQH receptacles are listed on pages Cross Reference Nos. CH90a and CH90b. Condulets that take type RQK receptacles are listed on pages Cross Reference Nos. CH90c and CH90d. Type RYQ receptacles, which take type RQ plugs, are listed on page Cross Reference No. CH167a.



## TYPE MD CONDULETS

Generator or Motor Disconnecter for Car Service



Type MD

Type MD Condulet provides an easily operated mechanical means for connecting and disconnecting wires leading from the generator to the regulator or from the controller to the motor. The receptacle part fastens to the car body, while the cables from the generator or motor are attached to the plug. The plug is pulled into the receptacle by a lever, and contact can be broken only by operating this lever, which is provided with a device to lock it in closed position.

All current carrying parts are thoroughly insulated and the whole device is constructed to withstand the severe usage of railroad work.

One of the principal advantages of type MD Condulet is that it prevents incorrect connections being made when the trucks are replaced after having been removed from the car for repairs. Another feature is that the electrical connections can be instantly disconnected without the use of tools or the removing of any parts which might become lost. The connections can be made or broken by car men, without the services of an electrician.



### TYPE MD CONDULETS—200 Ampere Capacity

Style.....	3-pole—250 Volts			4-pole—600 Volts		
Size in inches..	1	1¼	1½	1	1¼	1½
Catalogue No..	MD3	MD4	MD5	MD346	MD446	MD546
Standard Pkg..	10	10	10	10	10	10
Wt. Std. Pkg..	220 lbs.	230 lbs.	240 lbs.	On	On	On
List Price, ea..	\$25.50	\$25.75	\$26.00	request	request	request

## TYPES HNBS, HNBA, HNAS AND HNAA CONDULETS

Illuminated House Number

Take any Incandescent Lamp with Dimensions not Exceeding 2 1-8 x 4 5-8 Inches  
Furnished with Ground Glass Front and Back, Separable Swivel Hub and Lamp Receptacle



Type HNBS  
(Front View)

These Condulets show a luminous house number and, when properly located, the lamp will also illuminate the steps and door.

Two styles of separable swivel hubs are made, one being straight and the other with a 90-degree turn, and they are interchangeable on any of these Condulets.

The front glass will be furnished with any numbers or letters desired, not exceeding five characters, at a charge of \$.25, list, per character.



Type HNAA  
(Broken-away Rear View)

### RIGHT-HAND CONDULETS

### LEFT-HAND CONDULETS

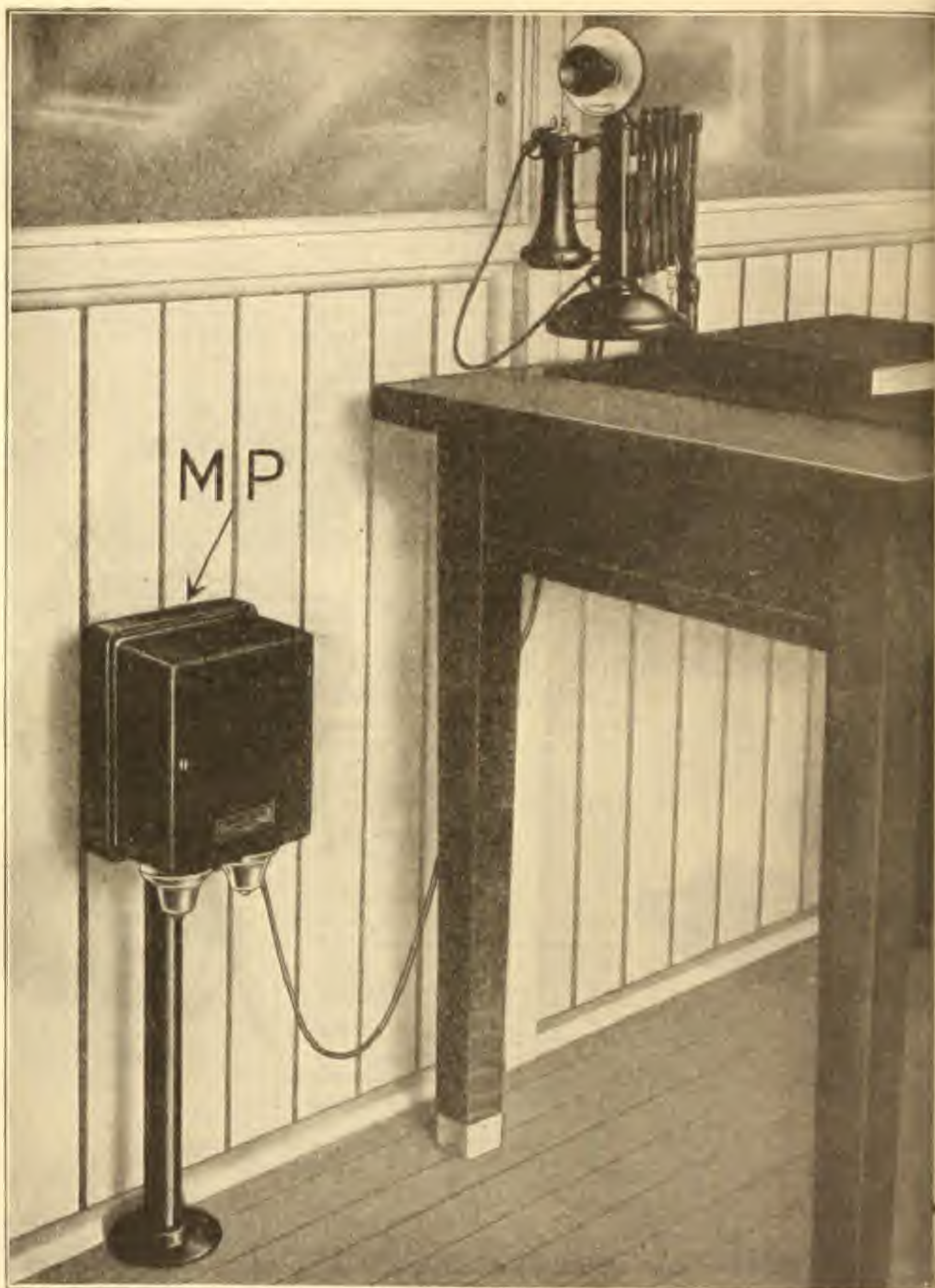
HNBS	HNBA	Type	HNAS	HNAA
Straight	90°	Style of Hub	Straight	90°
1/2	1/2	Size in inches..	1/2	1/2
HNBS1	HNBA1	Catalogue Number..	HNAS1	HNAA1
15	15	Standard Package...	15	15
90 lbs.	100 lbs.	Ship. Wt. Std. Pkg..	90 lbs.	100 lbs.
\$6.00	\$6.00	List Price, each....	\$6.00	\$6.00

For finishes and assortments, see note on page Cross Reference No. CH166.  
Condulet reducers are listed on page Cross Reference No. CH171.

(Cross Reference No. CH169.)



## TYPES MP AND MPD CONDULETS



Type MP Condulet with Bell Box Installed



## TYPES MP AND MPD CONDULETS

For Telephone Bell Boxes

Type MP Takes Western Electric Telephone Bell Box 334A

Type MPD Takes Stromberg-Carlson Telephone Bell Box 1130-A and 1131-F

Furnished with Fastening Screws for Bell Box

Where the wires of a telephone installation are run in conduit, it is frequently desirable to have the bell box supported by the conduit. This can only be done through the use of a suitable fitting fastened firmly on the conduit.

Types MP and MPD Condulets are designed for this particular purpose. They also fully enclose and protect the wires, and at the same time give a finished appearance to the installation that cannot otherwise be secured.

The Condulets are just large enough to take the bell boxes and, therefore, will fit in almost any place where the boxes will go.

When types MP and MPD Condulets are used, it is not necessary to mar the wall or masonry with bell box fastening screws.



TYPE MP CONDULETS—Black Enamel Finish

Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalog Number.....	MP1	MP2	MP3
Standard Package.....	25	25	25
Shipping Wgt. Std. Pkg.....	220 lbs.	220 lbs.	220 lbs.
List Price, each.....	\$2.60	\$2.70	\$2.80



TYPE MPD CONDULETS—Black Enamel Finish

Size in inches.....	$\frac{1}{2}$	$\frac{3}{4}$	1
Catalog Number.....	MPD1	MPD2	MPD3
Standard Package.....	25	25	25
Shipping Wgt. Std. Pkg.....	150 lbs.	150 lbs.	150 lbs.
List Price, each.....	\$2.60	\$2.70	\$2.80

Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes; for cast brass and cast bronze Condulets, plain and with special finishes; for aluminum Condulets, plain and with black enamel finish, see page Cross Reference No. CH182.



Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

(Cross Reference No. CH189d)




## SHADE HOLDERS, CONDULET ELBOWS AND COUPLINGS


### SHADE HOLDERS—Brass, Dipped Finish—For Crouse-Hinds Porcelain Receptacles

 NRS2 1/4	Size .....	For 2 1/4-inch Shades	For 3 1/4-inch Shades	For 2 1/4-inch Shades H Position	 NRH2 1/4
	Catalogue Number.....	NRS2 1/4	NRS3 1/4	NRH2 1/4	
	Standard Package.....	200	200	200	
	Shipping Weight Std. Pkg.	40 lbs.	60 lbs.	50 lbs.	
	List Price, each.....	\$ .17	\$ .32	\$ .32	


### CONDULET ELBOWS—45 Degrees—Black Enamel Finish

	Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
	Catalogue Number.....	EL1	EL2	EL3	EL4	EL5
	Standard Package.....	200	100	50	20	10
	Shipping Weight Std. Pkg.	100 lbs.	80 lbs.	70 lbs.	55 lbs.	65 lbs.
	List Price, each.....	\$ .22	\$ .30	\$ .35	\$ .65	\$ .70
	Size in inches.....	2	2 1/2	3	3 1/2	4
	Catalogue Number.....	EL6	EL7	EL8	EL9	EL10
	Standard Package.....	5	5	5	5	5
	Shipping Weight Std. Pkg.	35 lbs.	70 lbs.	80 lbs.	110 lbs.	125 lbs.
	List Price, each.....	\$1.15	\$2.60	\$3.00	\$4.25	\$5.30

### COUPLINGS FOR TYPE F CONDULETS—Black Enamel Finish

	Size in inches.....	1/2	3/4	1	1 1/4	1 1/2
	Catalogue Number.....	Coup 1	Coup 2	Coup 3	Coup 4	Coup 5
	Standard Package.....	100	100	50	20	10
	Shipping Weight Std. Pkg.	30 lbs.	35 lbs.	35 lbs.	20 lbs.	15 lbs.
	List Price, each.....	\$ .25	\$ .30	\$ .35	\$ .50	\$ .60
	Size in inches.....	2	2 1/2	3	3 1/2	4
	Catalogue Number.....	Coup 6	Coup 7	Coup 8	Coup 9	Coup 10
	Standard Package.....	5	5	5	5	5
	Shipping Weight Std. Pkg.	15 lbs.	25 lbs.	30 lbs.	50 lbs.	55 lbs.
	List Price, each.....	\$ .80	\$1.50	\$2.50	\$4.80	\$5.50

### CONDULET COUPLINGS—Black Enamel Finish—With Gasket

	Size in inches...	1/2-1/2	3/4-3/4	1-1	1 1/4-1 1/4	1 1/2-1 1/2	2-2
	Cat. No.....	Coup 11	Coup 22	Coup 33	Coup 44	Coup 55	Coup 66
	Std. Pkg.....	50	50	25	25	10	10
	Wt. Std. Pkg....	50 lbs.	60 lbs.	30 lbs.	35 lbs.	25 lbs.	30 lbs.
	List Price, each.	\$ .65	\$ .75	\$ .85	\$ .95	\$1.05	\$1.25

**Finishes:** Black enamel is the standard finish for Condulet elbows and Condulet couplings listed above, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze elbows and couplings with plain and special finishes, aluminum elbows and couplings with plain and black enamel finish, see page Cross Reference No. CH182. Above Condulet elbows or couplings of the same size with black enamel or galvanized finish may be assorted to make up a standard package. No other assortment is allowed. Dipped brass is the standard finish for shade holders, but polished or brush brass finish will be furnished at same price, if specifically ordered. No assortment of shade holders is allowed in making up a standard package.

(Cross Reference No. CH170)



# CONDULET REDUCERS, UNIONS AND CORD CLAMPS

## CONDULET REDUCERS

Standard Pkg. Assorted*	50	50	50	50	25	25	25	10	10
Wt. Std. Pkg. ....	60 lbs.	65 lbs.	70 lbs.	75 lbs.	45 lbs.	65 lbs.	105 lbs.	80 lbs.	100 lbs.
Size in inches. ....	3/4-1/2	1-1/2	1 1/4-1/2	1 1/2-1/2	2-1/2	2 1/2-1/2	3-1/2	3 1/2-1/2	4-1/2
Catalogue Number. ....	RE21	RE31	RE41	RE51	RE61	RE71	RE81	RE91	RE101
List Price, each. ....	\$ .15	\$ .20	\$ .30	\$ .40	\$ .50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches. ....	1-3/4	1 1/4-3/4	1 1/2-3/4	2-3/4	2 1/2-3/4	3-3/4	3 1/2-3/4	4-3/4
Catalogue Number. ....	RE32	RE42	RE52	RE62	RE72	RE82	RE92	RE102
List Price, each. ....	\$ .20	\$ .30	\$ .40	\$ .50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches. ....	1 1/4-1	1 1/2-1	2-1	2 1/2-1	3-1	3 1/2-1	4-1
Catalogue Number. ....	RE43	RE53	RE63	RE73	RE83	RE93*	RE103
List Price, each. ....	\$ .30	\$ .40	\$ .50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches. ....	1 1/2-1 1/4	2-1 1/4	2 1/2-1 1/4	3-1 1/4	3 1/2-1 1/4	4-1 1/4
Catalogue Number. ....	RE54	RE64	RE74	RE84	RE94	RE104
List Price, each. ....	\$ .40	\$ .50	\$1.00	\$1.35	\$2.00	\$2.75



Condulet Reducer

Size in inches. ....	2-1 1/2	2 1/2-1 1/2	3-1 1/2	3 1/2-1 1/2	4-1 1/2
Catalogue Number. ....	RE65	RE75	RE85	RE95	RE105
List Price, each. ....	\$ .50	\$1.00	\$1.35	\$2.00	\$2.75

Size in inches. ....	2 1/2-2	3-2	3 1/2-2	4-2
Catalogue Number. ....	RE76	RE86	RE96	RE106
List Price, each. ....	\$1.00	\$1.35	\$2.00	\$2.75

## CONDULET UNIONS



Condulet Union (Exploded View)



Condulet Union

Size in inches. ....	3-2 1/2	3 1/2-2 1/2	4-2 1/2
Catalogue Number. ....	RE87	RE97	RE107
List Price, each. ....	\$1.35	\$2.00	\$2.75

Size in inches. ....	3 1/2-3	4-3
Catalogue Number. ....	RE98	RE108
List Price, each. ....	\$2.00	\$2.75

Size in inches. ....	1/2-1/2	3/4-3/4	1-1	1 1/4-1 1/4	1 1/2-1 1/2
Catalogue No. ....	UN11	UN22	UN33	UN44	UN55
Standard Pkg. ....	50	50	25	25	25
Wt. Std. Pkg. ....	40 lbs.	50 lbs.	40 lbs.	50 lbs.	60 lbs.
List Price, ea. ....	\$ .35	\$ .40	\$ .60	\$1.00	\$1.25

Size in inches. ....	4-3 1/2
Catalogue Number. ....	RE109
List Price, each. ....	\$2.75

## CORD CLAMP—Black Enamel Finish

## PORCELAIN BUSHING—For Type FF Condulets



Illustrating use of Cord Clamp



For  
1/2, 3/4 and  
1-inch  
Conduit

Clamp 1  
50  
20 lbs.  
\$ .40

Description

Catalogue No.  
Standard Pkg.  
Wt. Std. Pkg.  
List Price, each

For  
30-60 Amp.  
Condulets

PE35  
50  
15 lbs.  
\$ .15

For  
100 Amp.  
Condulets

PE36  
50  
30 lbs.  
\$ .25\*



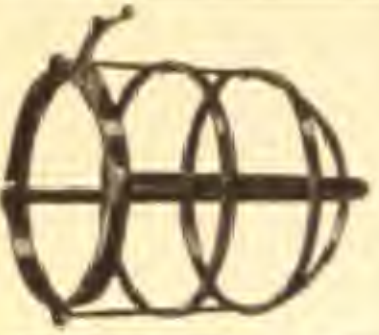
\*Reducers listed in the same vertical column may be assorted to make up a standard package.  
Finishes: Reducers are furnished with galvanized finish only.  
Black enamel is the standard finish for unions, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at the same price as black enamel finish. For special plated finishes, and cast brass and cast bronze reducers and unions, see page Cross Reference No. CH182.  
Black enameled and galvanized unions of the same size may be assorted to make up a standard package.

(Cross Reference No. CH171)



# CONDULET GUARDS, GLOBES, SEALING PLATES AND REFLECTOR HOLDERS

## GUARDS

	Size.....	For V Series and Equipment VGDE1		For VH Series and Equipment VGDE2	
	Finish.....	Black	Marine	Black	Marine
	Cat. No.....	V9	V90	VH9	VH90
	Std. Pkg.....	35	35	35	35
	Wt. Std. Pkg.	40 lbs.	40 lbs.	60 lbs.	60 lbs.
	List Price, ea.	\$1.80	\$1.80	\$2.25	\$2.25

## GLOBES

Color.... Clear Opal Green Blue Orange Ruby

### For V Series of Condulets and Equipment VGDE1

Cat. No.	V8	V41	V42	V43	V44	V45
Std. Pkg.	35	35	35	35	35	35
Wt. Pkg.	50 lbs.	50 lbs.	50 lbs.	50 lbs.	50 lbs.	50 lbs.
List, ea.	\$ .80	\$1.10	\$1.70	\$1.70	\$1.70	\$2.35

### For VH Series of Condulets and Equipment VGDE2

Cat. No.	VH8	VH41	VH42	VH43	VH44	VH45
Std. Pkg.	35	35	35	35	35	35
Wt. Pkg.	60 lbs.	60 lbs.	60 lbs.	60 lbs.	60 lbs.	60 lbs.
List, ea.	\$ .80	\$1.70	\$2.35	\$2.35	\$2.35	\$2.90



Type V Conduit  
Complete with Globe, Chart  
Receptacle and Sealing Plate  
(Broken-away View)

## SEALING PLATES—Brass

### For V and VH Series of Condulets

Size .....	For V Series	For VH Series
Catalogue Number..	V51	VH51
Std. Pkg., not Ass'd.	35	35
Ship. Wt. Std. Pkg.	30 lbs.	40 lbs.
List Price, each.....	\$ .30	\$ .50



Reflector Holder  
Showing Reflector Mounted

## REFLECTOR HOLDERS

### Take Reflectors Enumerated Below

Size.....	For V Series and Equipment VGDE1		For VH Series and Equipment VGDE2	
Finish.....	Black	Marine	Black	Marine
Cat. No.....	V61	V610	VH61	VH610
Std. Pkg.....	35	35	35	35
Wt. Std. Pkg.	30 lbs.	30 lbs.	35 lbs.	35 lbs.
List Price, ea.	\$1.40	\$1.40	\$1.65	\$1.65

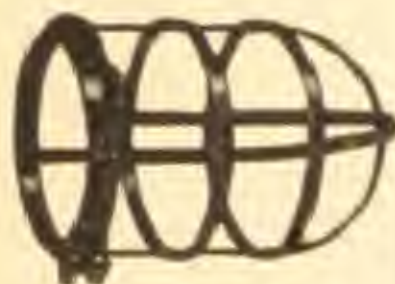


Reflector Holder with Guard  
Showing Reflector Mounted

## COMBINATION REFLECTOR HOLDERS WITH GUARDS

### Take Reflectors Enumerated Below

Size.....	For V Series and Equipment VGDE1		For VH Series and Equipment VGDE2	
Finish.....	Black	Marine	Black	Marine
Cat. No.....	V71	V710	VH71	VH710
Std. Pkg.....	35	35	35	35
Wt. Std. Pkg.	50 lbs.	50 lbs.	70 lbs.	70 lbs.
List Price, ea.	\$2.00	\$2.00	\$2.50	\$2.50




Above holders take the following reflectors which are not included in list prices.  
Holders V61, V610, V71 and V710 take HOLOPHANE—626, 627 and OVERBAUGH & AYERS—769, 771. Holders  
VH61, VH610, VH71 and VH710 take HOLOPHANE—628, 629 and OVERBAUGH & AYERS—770, 772.  
**Finishes:** Galvanized finish will be furnished at the same price as black finish, when order  
specifies galvanized finish.  
Black, marine and galvanized guards of the same size may be assorted to make up a standard  
package. The same assortment applies to reflector holders and reflector holders with guards.  
(Cross Reference No. CH173)



## CONDULET BARS, RINGS AND SWIVELS ADJUSTABLE BARS

or Condulet Bodies of G and H Series and Condulets of the Z Series of the Latest Form of Construction and Type FH Condulet Bodies


	Adjustable Bars	For Form 5	For Form 10	For Form 20 and Condulets of Z Series
	Catalogue Number .....	AB5	AB10	AB20
	Std. Pkg. not Assorted ....	50	50	50
	Weight Std. Pkg .....	10 lbs.	10 lbs.	10 lbs.
	List Price, each .....	\$ .20	\$ .20	\$ .25

Range of screw centers on adjustable bar AB5 is from  $\frac{1}{2}$  to  $1\frac{1}{2}$  inches.

Range of screw centers on adjustable bar AB10 is from  $\frac{1}{2}$  to  $1\frac{7}{8}$  inches.


Range of screw centers on adjustable bar AB20 is from  $\frac{1}{2}$  to  $2\frac{3}{8}$  inches.

## ADAPTING RINGS


	For Form 10 Type FH Condulet Bodies		For Form 20 Type FH and Condulets of the Z Series	
	Adapting Rings	To Mount Form 5 Fittings	To Mount Form 5 Fittings	To Mount Form 10 Fittings
	Catalogue Number .....	ARF5	ARF520	ARF1020
	Std. Pkg. not Assorted ....	50	50	50
	Weight Std. Pkg .....	20 lbs.	25 lbs.	30 lbs.
	List Price, each .....	\$ .20	\$ .20	\$ .20

## SWIVELS AND COMBINATION SWIVELS AND ADAPTING RINGS


For types G, GL, GT, GX, H and HA Condulets with the following openings: 5 ampere—1 15-16 inches diameter; 10 ampere—2 1-4 inches diameter, and 20 ampere—2 27-32 inches diameter

	Swivels	For 5 Ampere Condulets	For 10 Ampere Condulets	For 20 Ampere Condulets
	Catalogue Number .....	BSR5	BSR10	BSR20
	Std. Pkg. not Assorted ....	50	50	50
	Weight Std. Pkg .....	30 lbs.	30 lbs.	20 lbs.
	List Price, each .....	\$ .25	\$ .25	\$ .25

For types ZC, ZS, ZD and ZX Condulets with 2 27-32 inches diameter of opening for switches

	Combination Swivels and Adapting Rings	For 5 Ampere Switches	For 10 Ampere Switches	For 20 Ampere Switches
	Catalogue Number .....	ASR5	ASR10	BSR20
	Std. Pkg. not Assorted ....	50	50	50
	Weight Std. Pkg .....	30 lbs.	25 lbs.	20 lbs.
	List Price, each .....	\$ .25	\$ .25	\$ .25


For types ZC, ZS, ZD and ZX Condulets with cast cross bar under opening for switches. This bar is for mounting swivels and is cast as a part of Condulet

	Combination Swivels and Adapting Rings	For 5 Ampere Switches	For 10 Ampere Switches	For 20 Ampere Switches
	Catalogue Number .....	SR5	SR10	ESR20
	Std. Pkg. not Assorted ....	50	50	50
	Weight Std. Pkg .....	20 lbs.	25 lbs.	10 lbs.
	List Price, each .....	\$ .25	\$ .25	\$ .20




# CONDULET SWIVELS, STRAPS, PADLOCKS AND CLAMPS SWIVELS—Continued

For Types G, GL, GT, GX, and H Condulets with Low Center Posts for Mounting Swivels

	Swivels	For 5 Ampere Condulets	For 10 Ampere Condulets	For 20 Ampere Condulets
	Catalogue Number .....	DSR5	DSR10	DSR20
	Std. Pkg. not Assorted .....	50	50	50
	Shipping Weight Std. Pkg. .	10 lbs.	10 lbs.	10 lbs.
	List Price, each .....	\$ .20	\$ .20	\$ .25



For Types G, GL, GT, GX and H Condulets with high center posts for mounting swivels and for Type HA Condulets with cast cross bars under openings for switches

	Swivels	For 5 Ampere Condulets	For 10 Ampere Condulets	For 20 Ampere Condulets
	Catalogue Number .....	ESR5	ESR10	ESR20
	Std. Pkg. not Assorted .....	50	50	50
	Shipping Weight Std. Pkg. .	10 lbs.	10 lbs.	10 lbs.
	List Price, each .....	\$ .15	\$ .15	\$ .20

## FASTENING STRAPS


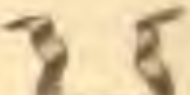
For Condulets of the QH Series  
Furnished with Fastening Bolts for Fittings

For Condulets of the QK Series  
Furnished with Fastening Bolts for Fittings

	For Form 10 Condulets	For Form 20 Condulets	Size	For Form 10 Condulets	For Form 20 Condulets	For 2-Pole RQK Recept.	
	Strap 1	Strap 2	Catalogue No. .	Strap 3	Strap 4	Strap 5	
	35	35	Std. Pkg. not As'td.	35	35	35	
	10 lbs.	10 lbs.	Weight Std. Pkg.	15 lbs.	15 lbs.	15 lbs.	
	\$ .25	\$ .25	List Price, each .	\$ .25	\$ .25	\$ .25	



For Condulet Bodies of the S Series  
Furnished with Fastening Screws for Fittings

For Elliptical Conduletto Fittings


	Strap 6	Catalogue Number .....	Strap 7	
	50	Standard Package not Assorted .....	200	
	20 lbs.	Shipping Weight Standard Package .	60 lbs.	
	\$ .15	List Price, each .....	\$ .15	


For Type QPB Condulets  
Furnished with all necessary Fastening Screws

For Condulets of the HN Series  
Furnished with Fastening Screws for Receptacle

	For QPB	Description	For HNAS and HNAA	For HNBS and HNBA	
	Strap 8	Catalogue Number .....	Strap 9	Strap 10	
	50	Standard Package not Assorted	50	50	
	25 lbs.	Shipping Weight Std. Pkg. .	25 lbs.	25 lbs.	
	\$ .25	List Price, each .....	\$ .25	\$ .25	

## PADLOCKS—Brass

	For Guards, Reflector Holders, Reflector Holders with Guards and Condulets of the QH Series			For YQ and 30 and 60 amp., FF, YKW and YKWC	For FF, YKW and YKWC above 60 Amperes
	Pad 1	Pad 2	Pad 3	PAD2	PAD3
				25	25
				10 lbs.	10 lbs.
				\$3.00	\$3.25


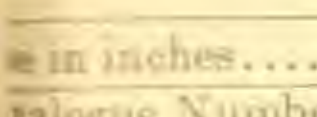
	GAS PIPE GROUNDING CLAMP—Galvanized Finish For 3-8-inch Gas Pipe in Condulets of the P and PM Series		
	For Combination Gas and Electric Fixtures		P3/8
			35
			30 lbs.
			\$ .20



## GASKETS FOR CONDULETS

### GASKETS FOR OBROUND COVERS AND OBROUND CONDULETTTO FITTINGS


For use between Condulet Bodies and Covers or Fittings

	Size in inches .....	1/2	3/4	1	1 1/4	1 1/2
	Catalogue Number.....	Gask 1	Gask 2	Gask 3	Gask 4	Gask 5
	Standard Package.....	200	100	50	25	25
	List Price, each .....	\$ .10	\$ .10	\$ .15	\$ .20	\$ .20
	Size in inches .....	2	2 1/2	3	3 1/2	4
	Catalogue Number.....	Gask 6	Gask 7	Gask 8	Gask 9	Gask 10
	Standard Package.....	25	25	25	25	25
	List Price, each .....	\$ .25	\$ .40	\$ .40	\$ .50	\$ .70


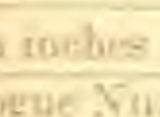
### GASKETS FOR OBROUND CONDULETTTO FITTINGS

For use between Cap and Base

### GASKET FOR FD AND FS CONDULET BODIES

	Size in inches...	1/2	3/4	1	
	Cat. No.....	Gask 31	Gask 32	Gask 33	Gask 91
	Std. Pkg.....	250	100	50	30
	List Price, ea..	\$ .10	\$ .10	\$ .15	\$ .25

### GASKETS FOR TYPE F CONDULET COUPLINGS



	Size in inches .....	1/2	3/4	1	1 1/4
	Catalogue Number.....	Gask 11	Gask 12	Gask 13	Gask 14
	Standard Package.....	100	100	50	25
	List Price, each.....	\$ .05	\$ .05	\$ .08	\$ .10
	Size in inches .....	1 1/2	2	2 1/2	3
	Catalogue Number.....	Gask 15	Gask 16	Gask 17	Gask 18
	Standard Package.....	25	25	25	25
	List Price, each.....	\$ .10	\$ .15	\$ .20	\$ .20

### GASKETS FOR G AND H SERIES OF CONDULET BODIES

For use between Bodies and Covers  
or Fittings

### GASKETS FOR NORBITT CONDULETTTO FITTINGS

For use between Bodies of the J and K Series  
and Fittings



	For Form 5 and Form 10 Bodies	For Form 20 Bodies	Gask 23 is also for use with Blank Cover J100		
	Gask 21	Gask 22	Catalogue Number...	Gask 23	
	100	75	Standard Package...	200	
	\$ .10	\$ .15	List Price, each....	\$ .10	

### GASKETS FOR RJ AND RK SERIES OF CONDULET BODIES



For use between Bodies and Metal Covers

### GASKETS FOR ELLIPTICAL CONDULETTTO FITTINGS

For use between RJ and RK Series of Condulet  
Bodies and Fittings or Porcelain Covers





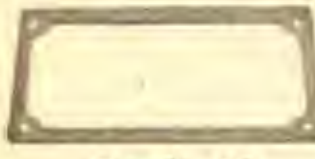
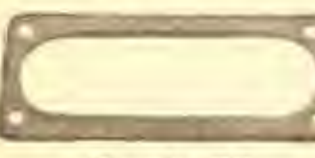










	Gask 35	Catalogue Number.....	Gask 34	
	200	Standard Package.....	200	
	\$ .15	List Price, each.....	\$ .15	

### GASKETS FOR V SERIES OF CONDULETS GASKETS FOR VH SERIES OF CONDULETS

	Sealing Plate Gasket	Globe Gasket	Description	Sealing Plate Gasket	Globe Gasket	
	Gask 26	Gask 24	Cat. No....	Gask 27	Gask 25	
	35	35	Std. Pkg....	35	35	
	\$ .15	\$ .15	List, each...	\$ .20	\$ .20	



## CONDULET GASKETS

Gaskets for WV Condulets					Gaskets for Equipments VGDE1 and VGDE2				
	Globe Gaskets		Cover Gasket	Description	Globe Gaskets		Between Holder and Body		
	Upper	Lower			For VGDE1	For VGDE2			
	Gask 87 25 \$ .35	Gask 88 25 \$ .35	Gask 89 25 \$ .35	Cat. No. Std. Pkg. List, ea.	Gask 24 35 \$ .15	Gask 25 35 \$ .20	Gask 60 35 \$ .25		
Gasket for Types PRC and PRX Condulets For use between Bodies and Covers					Gasket for Types PJCA and PJX Condulets For use between Bodies and Covers				
	Gask 52 25 \$ .35	..... Catalogue Number .....			Gask 67 25 \$ .30				
		..... Standard Package .....							
		..... List Price, each .....							
Gaskets for RS Series of Condulet Bodies									
	Gask 63	Size .....	For 8 1/2 x 8 1/2 Cover	For 8 1/2 x 4 1/2 Cover	For 4 1/2 x 4 1/2 Cover	For 8 1/2 x 4 Side Plate	For 4 1/2 x 4 Side Plate		
	Gask 66	Catalogue No. . .	Gask 61 25 \$ .50	Gask 63 25 \$ .40	Gask 64 25 \$ .35	Gask 66 25 \$ .35	Gask 65 25 \$ .30		
		Standard Pkg. . .							
		List Price, each .							
Gaskets for LO, CL and BO Series of Condulet Bodies For use between Bodies and LOB00 or LOB000 Covers					Gasket for DSP Series of Condulet Bodies For use between Bodies and Rectangular Cover				
	Gask 60 35 \$ .25	Gask 85 35 \$ .30	Catalogue Number . . .		Gask 84 50 \$ .25				
			Standard Package . . .						
			List Price, each . .						
Gasket for Types JRRH and JRRV Hoods For use between Condulet Bodies and Hoods					Gasket for Types MOH and MOV Hoods For use between Condulet Bodies and Hoods				
	Gask 70 50 \$ .20	..... Catalogue Number .....			Gask 90 50 \$ .25				
		..... Standard Package .....							
		..... List Price, each .....							
Gasket for Types UGC and UGX Bodies For use between Bodies and Covers or Receptacle Housings					Gasket for Types BPF, BPFA and BPB Plugs For use between Receptacle Housings and Plugs				
	Gask 51 25 \$ .75	..... Catalogue Number .....			Gask 59 25 \$ .25				
		..... Standard Package .....							
		..... List Price, each .....							
Gaskets for Type UGE Frame					Gaskets for SP Series of Condulets				
	For Blank or Hub Plates and Receptacle Housing		For Supporting and Flange Plates	Description	Gasket for Brass Ring	Gasket for Glass Disk			
	Gask 82 25 \$ .40	Gask 83 25 \$ .40							
				.. Cat. No. . .	Gask 57 25 \$ .60	Gask 58 25 \$ .50			
			.. Std. Pkg. . .						
			List Price, ea.						
Gasket for Condulet Bodies or Side Bracket Hoods that take Receptacle Mounting Plate RMP1 For use between Bodies and Mounting Plate					Gasket for Conduletto Clamp Fittings and Receptacle CCV337				
	Gask 85 35 \$ .30	..... Catalogue Number .....			Gask 30 25 \$ .10				
		..... Standard Package .....							
		..... List Price, each .....							



## OBROUND CONDULETTO FITTINGS

r Types A, B, C, CO, D, E, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TL, TR, U, UB and X Condulet Bodies

Furnished with Gasket between Base and Cap, and all necessary Fastening Screws



### RECEPTACLES WITH SHADE HOLDER GROOVE

Size of Condulet Body	1/2	3/4	1
Catalogue Number	JR1G	JR2G	JR3G
Standard Package	200	100	50
Shipping Weight Std. Pkg.	120 lbs.	80 lbs.	55 lbs.
List Price, each	\$ .30	\$ .35	\$ .40



### RECEPTACLES WITHOUT SHADE HOLDER GROOVE

Size of Condulet Body	1/2	3/4	1
Catalogue Number	JR1	JR2	JR3
Standard Package	200	100	50
Shipping Weight Std. Pkg.	120 lbs.	80 lbs.	55 lbs.
List Price, each	\$ .25	\$ .30	\$ .35



### CORD ROSETTES

Size of Condulet Body	1/2	3/4	1
Catalogue Number	JC1	JC2	JC3
Standard Package	200	100	50
Shipping Weight Std. Pkg.	120 lbs.	80 lbs.	60 lbs.
List Price, each	\$ .20	\$ .25	\$ .30



### FIXTURE ROSETTES WITH 1/8 MALE NIPPLE

Size of Condulet Body	1/2	3/4	1
Catalogue Number	JF19	JF29	JF39
Standard Package	100	100	50
Shipping Weight Std. Pkg.	80 lbs.	90 lbs.	60 lbs.
List Price, each	\$ .30	\$ .35	\$ .40



### FIXTURE ROSETTES WITH 1/8 FEMALE NIPPLE

Size of Condulet Body	1/2	3/4	1
Catalogue Number	JF1	JF2	JF3
Standard Package	100	100	50
Shipping Weight Std. Pkg.	80 lbs.	90 lbs.	60 lbs.
List Price, each	\$ .30	\$ .35	\$ .40



### HUBBELL ATTACHMENT PLUG RECEPTACLES—10 AMPERE

Size of Condulet Body	1/2	3/4	1
Catalogue Number	JR15	JR25	JR35
Standard Package	100	100	50
Shipping Weight Std. Pkg.	70 lbs.	80 lbs.	55 lbs.
List Price, each	\$ .40	\$ .45	\$ .50



### HUBBELL POLARITY PLUG RECEPTACLES—20 AMPERE

Size of Condulet Body	1/2	3/4	1
Catalogue Number	JR12	JR22	JR32
Standard Package	100	100	50
Shipping Weight Std. Pkg.	70 lbs.	80 lbs.	55 lbs.
List Price, each	\$ .55	\$ .60	\$ .65

Obround Conduletto fittings are made in sizes for 1/2, 3/4 and 1-inch Obround Condulet bodies. Proper fastening screws are furnished with Obround Conduletto fittings, and are so held in screw holes that they can not fall out.

Obround Condulet bodies that take Obround Conduletto fittings are listed on pages Cross Reference Nos. CH21 to CH 29a, inclusive. Obround gaskets are listed separately on page Cross Reference No. CH176.

(Cross Reference Page No. CH184a)



**NORBITT CONDULETTO FITTINGS**  
**FOR CONDULET BODIES OF THE J AND K SERIES**  
Furnished with Gasket and Fastening Screw

	<b>RECEPTACLE WITH SHADE HOLDER GROOVE</b>	
	Complete Fitting	
	Catalogue Number .....	CC227G
	Standard Package .....	200
	Shipping Weight Std. Pkg. ....	130 lbs.
	List Price, each .....	\$ .45
	<b>RECEPTACLE WITHOUT SHADE HOLDER GROOVE</b>	
	Complete Fitting	
	Catalogue Number .....	CC227
	Standard Package .....	200
	Shipping Weight Std. Pkg. ....	130 lbs.
	List Price, each .....	\$ .40
	<b>CORD ROSETTE</b>	
	Complete Fitting	
	Catalogue Number .....	CC332
	Standard Package .....	200
	Shipping Weight Std. Pkg. ....	140 lbs.
	List Price, each .....	\$ .30
	<b>FIXTURE ROSETTE WITH 1/8 MALE NIPPLE</b>	
	Complete Fitting	
	Catalogue Number .....	CC339
	Standard Package .....	100
	Shipping Weight Std. Pkg. ....	80 lbs.
	List Price, each .....	\$ .35
	<b>FIXTURE ROSETTE WITH 1/8 FEMALE NIPPLE</b>	
	Complete Fitting	
	Catalogue Number .....	CC338
	Standard Package .....	100
	Shipping Weight Std. Pkg. ....	80 lbs.
	List Price, each .....	\$ .35
	<b>HUBBELL ATTACHMENT PLUG RECEPTACLE—10 AMPERE</b>	
	Complete Fitting	
	Catalogue Number .....	CC5
	Standard Package .....	100
	Shipping Weight Std. Pkg. ....	70 lbs.
	List Price, each .....	\$ .50
	<b>HUBBELL POLARITY PLUG RECEPTACLE—20 AMPERE</b>	
	Complete Fitting	
	Catalogue Number .....	CC20
	Standard Package .....	100
	Shipping Weight Std. Pkg. ....	70 lbs.
	List Price, each .....	\$ .65

Norbitt Conduletto fittings are made in one size only and are interchangeable on Condulet bodies of the J and K series.

Proper fastening screw is furnished with each Norbitt Conduletto fitting, and is so held in screw hole that it can not fall out.

Condulet bodies that take Norbitt Conduletto fittings are listed on pages Cross Reference Nos. CH66 and CH67. Gasket is listed separately on page Cross Reference No. CH176.

(Cross Reference No. CH186a)



## ELLIPTICAL CONDULETTO FITTINGS

FOR CONDULET BODIES OF THE RJ AND RK SERIES

Furnished with Gasket and Fastening Screws



### RECEPTACLE WITH SHADE HOLDER GROOVE

Complete Fitting

Catalogue Number	RK527G
Standard Package	200
Shipping Weight Std. Pkg.	100 lbs.
List Price, each	\$ .45



### RECEPTACLE WITHOUT SHADE HOLDER GROOVE

Complete Fitting

Catalogue Number	RK527
Standard Package	200
Shipping Weight Std. Pkg.	100 lbs.
List Price, each	\$ .40



### CORD ROSETTE

Complete Fitting

Catalogue Number	RK532
Standard Package	200
Shipping Weight Std. Pkg.	110 lbs.
List Price, each	\$ .30



### FIXTURE ROSETTE WITH 1/8 MALE NIPPLE

Complete Fitting

Catalogue Number	RK539
Standard Package	100
Shipping Weight Std. Pkg.	70 lbs.
List Price, each	\$ .35



### FIXTURE ROSETTE WITH 1/8 FEMALE NIPPLE

Complete Fitting

Catalogue Number	RK538
Standard Package	100
Shipping Weight Std. Pkg.	70 lbs.
List Price, each	\$ .35



### HUBBELL ATTACHMENT PLUG RECEPTACLE—10 AMPERE

Complete Fitting

Catalogue Number	RK5
Standard Package	100
Shipping Weight Std. Pkg.	80 lbs.
List Price, each	\$ .50



### HUBBELL POLARITY PLUG RECEPTACLE—20 AMPERE

Complete Fitting

Catalogue Number	RK20
Standard Package	100
Shipping Weight Std. Pkg.	80 lbs.
List Price, each	\$ .65

Elliptical Conduletto fittings are made in one size only and are interchangeable on all Condulet bodies of the RJ and RK series.

Per fastening screws are furnished with Elliptical Conduletto fittings, and are so held in screw holes that they can not fall out.

Condulet bodies that take Elliptical Conduletto fittings are listed on pages Cross Reference Nos. CH69, CH70, CH71 and CH72. Gasket is listed separately on page Cross Reference No. CH176.

(Cross Reference No. CH188a)



## NORBITT CONDULETTO CLAMP FITTINGS FOR CONDULETS OF THE S SERIES

Norbitt Conduletto Clamp Receptacle C337 is used with the following: Equipments VGDE1 and VGDE2; Crouse-Hinds Reflector and Receptacle Holder SRH2, and Receptacle Mounting Plate RMP1. Furnished with Gasket



Norbitt Conduletto Clamp Receptacle  
With Shade Holder Groove  
(Exploded View)

Norbitt Conduletto Clamp fittings eliminate soldered and taped joints, and have the additional advantage of enclosed contacts.

These fittings are made in two parts—base and cap. Circuit wires connect direct to the base, and two screws through the cap complete the electrical connection and clamp fitting in position.

Norbitt Conduletto Clamp fittings have a base common to all. This construction permits the substitution of one style of cap for another, without disconnecting circuit wires.



Norbitt Conduletto Clamp  
Cord Rosette  
(Exploded View)



### RECEPTACLE WITH SHADE HOLDER GROOVE

Description	Fitting Complete
Catalogue Number .....	C337G
Standard Package .....	200
Shipping Weight Std. Pkg. ....	110 lbs.
List Price, each .....	\$ .45



### RECEPTACLE WITHOUT SHADE HOLDER GROOVE

Description	Fitting Complete
Catalogue Number .....	C337
Standard Package .....	200
Shipping Weight Std. Pkg. ....	110 lbs.
List Price, each .....	\$ .40



### CORD ROSETTE

Description	Fitting Complete
Catalogue Number .....	C442
Standard Package .....	200
Shipping Weight Std. Pkg. ....	100 lbs.
List Price, each .....	\$ .30



### FIXTURE ROSETTE WITH 1/8 MALE NIPPLE

Description	Fitting Complete
Catalogue Number .....	C449
Standard Package .....	100
Shipping Weight Std. Pkg. ....	65 lbs.
List Price, each .....	\$ .35



### FIXTURE ROSETTE WITH 1/8 FEMALE NIPPLE

Description	Fitting Complete
Catalogue Number .....	C448
Standard Package .....	100
Shipping Weight Std. Pkg. ....	65 lbs.
List Price, each .....	\$ .35

Condulet bodies that take Norbitt Conduletto clamp fittings are listed on pages Cross Reference Nos. CH94 and CH95. Equipments VGDE1 and VGDE2, Crouse-Hinds reflector and receptacle holder SRH2 and receptacle mounting plate RMP1, with each of which receptacle C337 is used are listed on page Cross Reference No. CH160a. Gasket is listed separately on page Cross Reference No. CH177.

(Cross Reference No. CH190)



## NEWGARD WEATHERPROOF RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD



Type A



Type B



Type C

### FOR MAZDA LAMPS, 60 WATTS AND SMALLER

	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per Doz.
437	Type A complete except guard.....	60	110	\$15.00
447	Type B complete except guard.....	60	140	18.00
449	Type C complete except guard.....	60	140	19.00
443	Porcelain caps with receptacle and lead wires only.....	60	...	6.00
444	Type B metal fitting.....	60	...	3.00
445	Type C metal fitting.....	60	...	4.00
441	Clear glass globes.....	60	...	8.00
442	Natural red globes.....	60	...	16.00
462	Natural green globes.....	60	...	16.00
451	Wire guards.....	60	...	8.00
434	Rubber gaskets.....	60	...	1.00

### FOR MAZDA LAMPS, 100 WATTS AND SMALLER

751	Type A complete except guard.....	30	100	30.00
752	Type B complete except guard.....	30	120	33.00
760	Type C complete except guard.....	30	120	34.00
754	Porcelain caps with receptacle and lead wires only.....	30	...	12.00
756	Type B metal fitting.....	60	...	3.00
757	Type C metal fitting.....	60	...	4.00
755	Clear glass globes.....	30	...	16.00
759	Natural red globes.....	30	...	36.00
763	Natural green globes.....	30	...	36.00
753	Wire guards.....	30	...	12.00
758	Rubber gaskets.....	30	...	2.00

### CONDUCTING LEAD WIRES

Receptacles are regularly furnished with 8-inch wires. For extra length, add five cents per foot per conductor.



## WATIGHT RECEPTACLES AND GLOBES

## NATIONAL ELECTRICAL CODE STANDARD



Type A



Type B



Type C



Wire Guard

The Watight Combined Waterproof Receptacle and Globe is exactly what its name implies, being a receptacle to take a 25-watt, 40-watt or 60-watt Mazda lamp with Edison base. To this receptacle a water and moisture-proof globe is fitted, making a combination receptacle and globe which is water-proof and made entirely of non-absorbing and non-corrosive material, making it impervious to climatic changes.

The porcelain used in the construction of the cap, or receptacle part, is highly glazed, non-absorbent, and very strong. The clear globe is made of the best flint glass and consequently is strong. It is threaded to screw to the porcelain cap, which is also threaded, and a rubber gasket between the two makes it water-tight.

The conducting wires enter at the top of the receptacle and are made of No. 14 B. & S. rubber covered wire. The top is filled with a composition that will not soften in heat, nor crack, nor absorb moisture. The braid on the rubber covered wire is carried just beneath the surface of the cap and then discontinued, consequently the braid does not carry moisture to the interior of the receptacle. The diameter of the opening in the globe is 3 inches and the globe is 6½ inches long.

The Watight Combined Waterproof Receptacle and Globe is made in three styles. Style A is receptacle complete with two conducting wires 8 inches long. Style B is a Style A receptacle with same length conducting wires, but with an iron pipe connection fitted with a cap or receptacle and tapped with ½-inch iron pipe. Style C is also a Style A receptacle with the same length of conducting wires, and to the cap is fitted an iron flange for securing direct to the wall or ceiling. The flange is secured to the cap by means of set screws.

## TYPE A

This is the pendent type and hangs suspended by its conducting wires. Unless otherwise specified, 8-inch wires are furnished.

Trade No.	Mfrs. No.	Description	Price per Doz.
073186	6504	Edison Base, 8-inch wires	\$19.00

## TYPE B

This is the bracket type. Cover is threaded to screw on regular ½-inch iron conduit pipe. Unless otherwise specified, 8-inch wires are furnished.

073187	7173	Edison Base, 8-inch wires	22.00
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## TYPE C

This is the flange type. Cover is flanged and can be screwed to wall, ceiling or other support. Unless otherwise specified, 8-inch wires are furnished.

073188	7175	Edison Base, 8-inch wires	23.00
Extra length of wire on all the above receptacles, per foot			.20

## WATIGHT WIRE GUARDS

These guards fit tightly over globe and are secured at top.

Trade No.	Mfrs. No.	Price per Doz.
073189	11604	\$10.00

## PARTS

Trade No.	Mfrs. No.	Description	Price per Doz.
073190	15162	Clear globes	\$10.00
073191	15163	Blue globes	12.00
073192	15164	Green globes	12.00
073194	15166	Type B couplings	4.00
073195	15168	Type C flanges	5.00
073196	15169	Rubber gaskets	1.20

The colored globes are genuine colored glass.



# DUNCAN SOCKETS

SCHEDULE B



## EDISON SOCKETS

660 Watts

New type, snap cap, quick-make-and-break, brass shell sockets.

These sockets are particularly adapted for fixture work, as a narrow groove in the neck of the cap permits a wide turning of the socket even after it is firmly fitted on the stem.

The holding catches on the shell and cap are so arranged as to warrant a maximum of strength and rigidity.



No. 9186



No. 50745



No. 50723

No. 50746



No. 50785

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price per 100
203858	660	Key, 1/8-in. cap.	500	110	\$36.00
203859	661	Keyless, 1/8-in. cap.	500	105	30.00
203860	662	Key, 3/8-in. cap.	250	65	42.00
203861	663	Keyless, 3/8-in. cap.	250	60	36.00

## LONG KEY SOCKETS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price per 100
203862	9396	Long key, 1/8-in. cap.	500	112	\$36.00

## PULL CHAIN SOCKETS

250 Watts

The same shell and locking device is used on this socket as on the sockets listed above.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price per 100
203863	5000	1/8-inch cap.	250	65	\$60.00
203864	5001	3/8-inch cap.	100	30	66.00

## EDISON WALL SOCKETS

Interchangeable Standard

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price per 100
203865	9184	Key	250	110	\$44.00
203866	9185	Keyless	250	100	41.00
203867	9186	Pull chain	250	100	71.00

### Slotted Base, Removable Ring

203868	50747	Key	250	70	44.00
203869	50745	Keyless	250	60	30.00

### Concealed Base, Removable Ring

203870	50723	Keyless	250	60	30.00
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### All Brass Concealed Base, Removable Ring

203871	50746	Keyless	250	60	41.00
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### Large Base

203872	50785	Keyless	100	45	45.00
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All sockets and receptacle shells furnished in brushed brass, unless otherwise specified.



## DUNCAN SOCKETS AND RECEPTACLES



No. 60020



No. 50717



No. 11025



No. 11028



No. 11034



No. 11037



No. 4063



No. 4004

## BRASS WALL SOCKETS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
206773	60020	Keyless	100	45	\$80.00

Outside diameter of base  $3\frac{1}{8}$  inches; supporting holes  $2\frac{1}{4}$  inches on center.

## PONY WALL SOCKETS

206774	50717	Keyless	250	60	25.00
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Outside diameter of base  $2\frac{1}{4}$  inches.

## INTERCHANGEABLE PORCELAIN SOCKETS

660 WATTS, 250 VOLTS

## Pendant Cap

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
206775	11025	Key	250	140	\$39.00
206776	11026	Keyless	250	115	33.00

 $\frac{1}{8}$ -inch Brass Cap

206777	11028	Key	100	65	54.00
206778	11029	Keyless	100	55	48.00

 $\frac{3}{8}$ -inch Brass Cap

206779	11031	Key	100	65	58.00
206780	11032	Keyless	100	55	52.00

## Concealed Base

206781	11034	Key	100	90	41.00
206782	11035	Keyless	100	90	35.00

Base for  $3\frac{1}{4}$ -inch Outlet Box

206783	11037	Key	100	100	59.00
206784	11038	Keyless	100	90	53.00

## SIGN RECEPTACLES

660 WATTS, 250 VOLTS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
206785	4063		250	75	\$17.00

Hole required for this receptacle,  $1\frac{3}{8}$  inches in diameter.  
Diameter of receptacle,  $1\frac{1}{2}$  inches, depth  $1\frac{3}{8}$  inches.

## EDISON CANDLE SOCKETS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
206786	4004	Fusible thread hickey	500	40	\$30.00



# DUNCAN SOCKETS

## SCHEDULE B



No. 317



No. 0317



No. 227



No. 0227



No. 327



No. 0327



No. 247



No. 0247



No. 0116 1/2



No. 9366

# EDISON PORCELAIN SOCKETS

## For Reinforced Cord

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
203873	317	Key	250	95	\$33.00
203874	0317	Keyless	250	80	30.00

## 1/8-inch Brass Cap

203875	227	Key	100	45	37.00
203876	0227	Keyless	100	35	34.00

## 3/8-inch Brass Cap

203877	327	Key	100	45	40.00
203878	0327	Keyless	100	35	37.00

# EDISON WALL SOCKETS

## All Porcelain Sockets

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
203879	247	Key	100	80	\$35.00
203880	0247	Keyless	100	70	32.00

# EDISON WEATHERPROOF SOCKETS

## Porcelain Bracket Sockets with Brass Caps

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
203881	0116 1/2	1/2-inch cap	100	36	\$50.00
203882	116 1/2	3/8-inch cap	100	45	50.00

## Porcelain Sockets

Specially adapted for use in cellars, mines, warehouses, skating rinks, parks and for all out-of-doors installations. These sockets are filled with insulating cement—no sulphur is used.

Trade No.	Mfrs. No.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
203883	9366	250	85	\$20.00

Furnished with 8 inches of No. 14 B. & S. stranded rubber covered wire. Longer lengths furnished to order.



## DUNCAN RECEPTACLES

## SCHEDULE B



No. 9402



No. 4013



No. 366

## EDISON CLEAT RECEPTACLES

These receptacles meet the Underwriters' requirements for temporary work and have  $\frac{1}{2}$ -inch thickness of porcelain underneath contact points.



No. 9397

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203884	9402	250	90	\$15.00
203885	4013	250	90	20.00

## MINIATURE CLEAT RECEPTACLES

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203886	366	200	20	\$12.00

## CANDELABRA CLEAT RECEPTACLES

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203887	367	200	20	\$12.00



No. 988

## EDISON CONDUIT BOX RECEPTACLES

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203888	9397	Screw holes, $1\frac{1}{2}$ -in. centers	250	50	\$20.00
203889	40537	Screw holes, $1\frac{1}{4}$ -in. centers	250	50	17.00

## TWO-PIECE SIGN RECEPTACLES

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203890	988	250	80	\$20.00



No. 1700

## PONY SIGN RECEPTACLES

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203891	1700	250	70	\$14.00

Diameter of base,  $1\frac{1}{8}$  inches. Height above base, 1 inch.  
Diameter of top,  $1\frac{1}{2}$  inches. Screw holes,  $1\frac{3}{8}$ -inch centers.



## DUNCAN ROSETTES

SCHED. LE B



No. 703



No. 1001



No. 870



No. 871



No. 926



No. 926A

### FUSELESS ONE-PIECE CLEAT ROSETTES

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203900	703	500	130	\$8.00
203901	1001	250	85	8.00

### NEWCODE FUSIBLE K. W. ROSETTES

The cap fits absolutely close to the base by means of the tension of the lug screws on the brass lugs and does not loosen with vibration.



No. 870A

Trade No.	Mfrs. No.	Cleat		Price per 100
		Std. Pkg.	Wt., Lbs. Std. Pkg.	
203902	870	250	110	\$15.50
203903	871	250	110	15.50
203904	926	250	100	15.50

### NEWCODE FUSELESS TWO-PIECE ROSETTES



No. 871A

Trade No.	Mfrs. No.	Molding		Price per 100
		Std. Pkg.	Wt., Lbs. Std. Pkg.	
203905	926A	250	100	\$15.00
206906	870A	250	110	15.00
203907	871A	250	110	15.00



## DUNCAN SEPARABLE PLUGS AND RECEPTACLES



No. 300



No. 311



No. 304



No. 309

No. 318



No. 315



No. 316



No. 320

## PORCELAIN ATTACHMENT PLUGS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203908	300	With porcelain cap	250	70	\$30.00
203909	301	With composition cap	250	70	35.00
203910	302	Brass covered cap	250	70	40.00
203911	303	Base only	250	50	15.00

## ALL COMPOSITION ATTACHMENT PLUGS

660 Watts, 250 Volts

203912	311	With composition plug and cap	100	20	25.00
206767	312	With brass covered cap	100	20	40.00
206768	313	With porcelain cap	100	20	30.00
206769	314	Base only	100	15	15.00

## WALL RECEPTACLES

203913	304	With porcelain cap	50	20	15.00
203914	305	With composition cap	50	20	50.00
203915	306	With brass covered cap	50	20	55.00
203916	307	Base only	50	18	30.00

## SEPARATE CAPS FOR PLUGS AND RECEPTACLES

660 Watts, 250 Volts

203917	308	Porcelain	50	3	15.00
203918	309	Composition	50	3	20.00
203919	310	Brass covered	50	3	25.00
206770	318	Porcelain cap only	60	3	15.00
206771	319	Composition cap only	60	3	15.00
206772	321	Brass cap only	60	3	25.00

Above caps are interchangeable with all attachment plugs and receptacles.

## FLUSH WALL OR FLOOR PLUG RECEPTACLES

10 Amperes, 250 Volts

Flush plug, with  $2\frac{3}{4}$ -inch round plate, supporting screw holes spaced  $1\frac{7}{8}$  inches on centers.

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203920	315	50	25	\$100.00

Flush plug with  $2\frac{3}{4} \times 4\frac{1}{2}$ -inch plate, outside supporting holes  $3\frac{3}{4}$  inches on centers, inside,  $1\frac{3}{8}$  inches on centers.

203921	316	50	43	110.00
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When inserted in the above receptacles, cap projects about  $\frac{1}{2}$ -inch above surface of receptacle.

## CURRENT TAPS

Current tap multiple, 660 watts, 250 volts, with shadeholder groove

203922	320	50	30	50.00
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## DUNCAN SWITCHES



No. 2310



No. 100



No. 2572



No. 2573



No. 2570



No. 3000

### ROTARY SWITCHES

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
206787	2310	Single-pole	250	70	\$32.00

### NEWCODE TUMBLER SWITCHES

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

The base is the same size as the standard 5-ampere switches and will take every standard fitting. The mechanism is quick-make-and-break. Wire holes in base are sufficiently large to allow loom to enter same.

Binding posts are Newcode and the contacts are double, making the contact positive.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203923	100	Single-pole	250	80	\$42.00
203924	103	Three-way	50	20	68.00

### NEWCODE SWITCH BASES

This base may be used with a 5 or 10-ampere snap switch as well as any tumbler switch.

203925	2358		200	50	6.00
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### PENDANT SWITCHES

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Schedule	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
206788	2572	Brass shell	H	100	15	\$50.00
206789	2573	Porcelain	H	100	20	50.00

### CANOPY SWITCHES

3 Amperes, 125 Volts

206790	2570	3/8-in. stem	H	100	6	80.00
206791	2571	3/8-in. stem	H	100	8	85.00

### FEED THRU SWITCHES

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

206792	3000	Single-pole	H	100	20	50.00
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### COUPLING SWITCHES

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

206793	3001		H	50	15	60.00
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### HEATER SWITCH PLUGS

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

206794	3002		H	100	30	135.00
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No. 3002



No. 3001



## C-H PUSH SOCKETS

660 WATTS, 250 VOLTS



No. 7500



No. 7560



No. 7510



No. 7501



No. 7511

## BRASS SHELL SOCKETS

C-H Brass Shell Sockets have four distinctive features. Push buttons replace the ordinary key; the quick make and break mechanism has the high rating of 660 watts, 250 volts; they are indicating; a locking nozzle replaces the tiny and weak set-screw for securing the socket to the fixture.

All pendent sockets are provided with an easily wired, effective strain relief, at no additional charge.



No. 7506

## Push Sockets

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., lbs. Std. Pkg.	Price Each
87168	7500*	1/8-inch cap.....	25	500	100	\$0.33
87169	7502*	1/4-inch cap.....	25	250	55	.41
87170	7504*	3/8-inch cap.....	25	250	58	.43
87171	7506*	Pendent, with strain relief.....	25	500	100	.33
87184	7520*	1/8-inch male cap.....	25	500	100	.33
87185	7522*	1/4-inch male cap.....	25	250	58	.41
87186	7524*	3/8-inch male cap.....	25	250	58	.43
87187	7560	1/8-inch cap with extra insulation bushed inlet..	25	250	55	.33
126101	7562	1/8-inch cap with extra metal bushed inlet....	25	250	55	.33

## Removable Button Push Sockets

126107	7510*	1/8-inch cap.....	25	250	50	.41
126108	7512*	1/4-inch cap.....	25	250	55	.43
126109	7514*	3/8-inch cap.....	25	250	58	.45
126110	7530*	1/8-inch male cap.....	25	250	50	.41
126111	7532*	1/4-inch male cap.....	25	250	55	.43
126112	7534	3/8-inch male cap.....	25	250	58	.45

## Keyless Sockets

87172	7501*	1/8-inch cap.....	25	500	100	.33
87173	7503*	1/4-inch cap.....	25	250	55	.41
87174	7505*	3/8-inch cap.....	25	250	58	.43
87175	7507*	Pendent, with strain relief	25	500	91	.33
126102	7521*	1/8-inch male cap.....	25	500	100	.33
126103	7523*	1/4-inch male cap.....	25	250	55	.41
126104	7525*	3/8-inch male cap.....	25	250	58	.43
126105	7571*	1/8-inch cap with extra insulation bushed inlet	25	250	55	.33
126106	7573	1/8-inch cap with extra metal bushed inlet....	25	250	55	.33

## Electrolite Keyless Sockets

87176	7511*	1/8-inch cap.....	25	100	20	.33
87177	7513*	1/4-inch cap.....	25	100	20	.33
87178	7515*	3/8-inch cap.....	25	100	20	.33
87179	7531*	1/8-inch male cap.....	25	100	20	.33
87180	7533*	1/4-inch male cap.....	25	100	20	.33
87181	7535*	3/8-inch male cap.....	25	100	20	.33
87182	7575	1/8-inch cap with extra insulation bushed inlet	25	100	20	.33
87183	7577	1/8-inch cap with extra metal bushed inlet....	25	100	20	.33

Standard finishes are brush brass and polished brass. Brush brass shipped unless otherwise specified. Other finishes can be furnished at the regular advance.

Standard push buttons measure 1 3/4 over all. Special push buttons 2 1/8 or 2 3/8 over all will be furnished when specified without extra charge. \* National Electrical Code Standard.



# BENJAMIN SPECIAL FINISHES

## ADDITIONS FOR SPECIAL FINISHES

### APPLYING TO BENJAMIN WIRING DEVICES

Prices for standard finishes, are mentioned in connection with the listing and description of materials. Below is a table of additions to be made to list prices for certain special finishes of material. Prices will be quoted on application for special finishes other than those given below.

Special and standard finishes may be assorted to make standard package quantity. On order coverings 500 or more pieces of one special finish, additional discount will be given upon quotation.

Class of Finish	Key and Keyless Sockets Outlet Box Fittings	Pull Chain Current and Tap Sockets	Shade Holders Socket Extension
Barff	\$0.10	\$0.12	\$0.05
ze, Statuary	.16	.20	.08
ze, Japanese	.16	.20	.08
er, Oxidized	.10	.12	.05
nel, White	.16	.20	.08
nel, Green	*.16	.20	.08
, Roman	*.16	.20	.08
Metal	.10	.12	.05
el, Polished	.10	.12	.05
r, Brushed	.20	.30	.10
r, Polished	.20	.30	.10

Class of Finish	Wireless Stand Lamp and Plug Clusters Wireless Clusters Plug Angle and Plug Twin Sockets	Adjustable Clusters Adjustable Plug Sockets	Flush Receptacle Plates
Barff	†15%	†15%	\$0.10
ze, Statuary	18%	18%	.10
ze, Japanese	18%	18%	.10
er, Oxidized	15%	15%	.10
nel, White	20%	20%	.10
nel, Green	20%	20%	.10
, Roman	†12%	†12%	.10
Metal	15%	15%	.10
el, Polished	15%	15%	.10
r, Brushed	20%	20%	.20
r, Polished	20%	20%	.20

Not applying to keyless copper Benco Sockets.

Not applying to cluster specialties in quantity.



## BENJAMIN SOCKETS

## NATIONAL ELECTRICAL CODE STANDARD



No. 4200



No. 4207



No. 4370



No. 4210



No. B-4252

The shell of the Benco Socket is made in copper with brush brass finish for indoor use, frosted aluminum for outdoor use and natural copper for outdoor use under severe conditions such as seaboard service. Type S Shade Holders listed below and Benjamin reflectors with S Holders combined are easily attached to these sockets by a substantial screw thread arrangement. Copper Benco Sockets will be furnished with green porcelain enamel finish for use with S Type Reflectors, when specified, at no advance in price. For lamp grip, add 15 cents to list.

## BENCO MEDIUM BASE KEYLESS SOCKETS

660 Watts, 600 Volts

Trade No.	Mfrs. No.	Description	Size Tapped In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
020944	4200	Aluminum shell, frost finish	1 1/2	50	15	\$0.38
020945	4201	Aluminum shell, frost finish	3/8	50	15	98
92834	4335	Aluminum shell, frost finish	*1 1/2	50	15	98
020946	4202	Copper shell, brush brass finish	1 1/2	50	15	98
020947	4203	Copper shell, brush brass finish	3/8	50	15	98
92835	4336	Copper shell, brush brass finish	*1 1/2	50	15	98
27496	4204	Copper shell, natural finish	1 1/2	50	15	98
27497	4205	Copper shell, natural finish	3/8	50	15	98
92836	4337	Copper shell, natural finish	*1 1/2	50	15	98

\*Cord Bushing.

## BENCO PULL CHAIN SOCKETS

660 Watts, 250 Volts

120405	4225	Aluminum shell, frost finish	1 1/2	50	16	1.38
120406	4226	Aluminum shell, frost finish	3/8	50	16	1.38
120407	4207	Copper shell, brush brass finish	1 1/2	50	16	1.38
120408	4208	Copper shell, brush brass finish	3/8	50	16	1.38
120409	4236	Copper shell, natural finish	1 1/2	50	16	1.38
120410	4237	Copper shell, natural finish	3/8	50	16	1.38

## TYPE S MEDIUM SCREW BASE HOLDERS

Frosted Aluminum—Weatherproof

120411	4215	2 1/4-inch Form O	50	2	38
120413	4217	3 1/4-inch	50	4	58

Natural Copper—Weatherproof

120417	4370	2 1/4-inch Form O	50	4 1/2	38
120419	4372	3 1/4-inch	50	8	98
120420	4373	4-inch	50	10 1/2	1.08

Copper, Brushed Brass Finish

120423	4377	2 1/4-inch Form O	50	4 1/2	38
120425	4379	3 1/4-inch	50	6 1/4	98
120426	4380	4-inch	50	9 1/4	1.08

## BENCO MOGUL BASE SOCKETS

1500 Watts, 600 Volts

Bencos Nos. 4210-4299 are highly insulated, porcelain-lined, brass shell keyless sockets for use with mogul base lamps. Standard finishes are brush brass and natural copper.

Trade No.	Mfrs. No.	Description	Size Tapped In.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
047316	4210	Copper shell, brush brass finish	3/8	20	15	\$2.18
120378	4297	Copper shell, brush brass finish	1 1/2	20	15	2.18
120379	4298	Copper shell, natural finish	3/8	20	15	2.18
120380	4299	Copper shell, natural finish	1 1/2	20	15	2.18

## Type S Screw Threaded Shade Holders

These shade holders are designed for use with Mogul Bencos Nos. 4210-4299. They are of proper depth.

120381	B-4252	Brush brass, 3 1/4-inch	20	2	98
120385	C-4252	Natural copper, 3 1/4-inch	20	2	98



# BENJAMIN PORCELAIN MOGUL SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

1500 Watts, 600 Volts

## ONE-PIECE MOGUL SOCKETS

Porcelain sockets are arranged for attaching to a surface or bracket by means of screws passing through the base. Wires in Nos. 69 and 691 lead in at the sides; in Nos. 169 and 692, through the base. Screw holes are spaced  $1\frac{1}{2}$  inches on centers.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Std.	Price Each
195936	69	Open terminals, less lamp grip	20	9	\$0.83
195937	691	Open terminals, with lamp grip	20	9	.98
195938	169	Concealed terminals, less lamp grip	20	9	.83
195939	692	Concealed terminals, with lamp grip	20	9	.98
203110	*690	Concealed terminals, less lamp grip, no bead	20	9	.83
203111	*694	Concealed terminals, with lamp grip, no bead	20	9	.98

## TWO-PIECE MOGUL SOCKETS

Two-piece porcelain sockets have means for attaching to a flange or surface. Wires are brought in through side outlets in upper base of Nos. 693 and 695 and screw holes are spaced  $1\frac{1}{4}$  inches on centers; in Nos. 696 and 698, through central opening, with screw holes slotted for  $1\frac{1}{2}$  to  $1\frac{3}{4}$ -inch centers.

195940	693	Open terminals, less lamp grip	20	12	1.05
195941	695	Open terminals, with lamp grip	20	12	1.20
195942	696	Concealed terminals, less lamp grip	20	12	1.05
195943	698	Concealed terminals, with lamp grip	20	12	1.20

## MOGUL SOCKETS WITH METAL TOPS

### ONE-PIECE SOCKETS

Cap tapped for  $\frac{1}{2}$ -inch stem is standard. Cap tapped for  $\frac{3}{8}$ -inch stem supplied when specified, without change in price.

#### Cast Aluminum Cap with Socket

Trade No.	Mfrs. No.	Description	Size Tapped Inches	Car. ton	Std. Pkg.	Wt. Lbs. Std.	Price Each
195946	3857	Concealed terminals, less lamp grip	$\frac{1}{2}$	10	20	11 $\frac{1}{4}$	\$1.28
195947	3858	Concealed terminals, with lamp grip	$\frac{1}{2}$	10	20	11 $\frac{1}{4}$	1.43
195962	*3860	Concealed terminals, less lamp grip	$\frac{1}{2}$	10	20	10	1.28
195963	*3861	Concealed terminals, with lamp grip	$\frac{1}{2}$	10	20	10	1.43

#### Cast Iron Yoke with Socket

195948	3879	Open terminals, less lamp grip	$\frac{1}{2}$	10	20	13 $\frac{3}{4}$	1.05
195949	3880	Open terminals, with lamp grip	$\frac{1}{2}$	10	20	13 $\frac{3}{4}$	1.20

### TWO-PIECE SOCKETS

Cap tapped for  $\frac{1}{2}$ -inch stem is standard. Cap tapped for  $\frac{3}{8}$ -inch stem supplied when specified, without change in price.

#### Cast Aluminum Cap with Socket

195964	2512	Concealed terminals, less lamp grip	$\frac{1}{2}$	10	20	15	1.50
195965	2513	Concealed terminals, with lamp grip	$\frac{1}{2}$	10	20	15	1.65

#### Cast Iron Yoke with Socket

195952	2502	Open terminals, less lamp grip	$\frac{1}{2}$	10	20	17 $\frac{1}{2}$	1.50
195953	2503	Open terminals, with lamp grip	$\frac{1}{2}$	10	20	17 $\frac{1}{2}$	1.65

## METAL TOPS ONLY

Nos. 2567-2568 have screw holes on both  $1\frac{1}{2}$ -inch and  $1\frac{1}{4}$ -inch centers. Nos. 3846-3847 have screw holes on both  $1\frac{1}{2}$ -inch and  $1\frac{3}{4}$ -inch centers.

Trade No.	Mfrs. No.	Description	For Socket Nos.	Size Tapped Inches	Wt. Lbs. Std.	Price Each
195956	2567	Cast aluminum cap	169-690-696	$\frac{1}{2}$	2 $\frac{1}{2}$	\$0.45
195957	2568	Cast aluminum cap	169-690-696	$\frac{3}{8}$	2 $\frac{1}{2}$	.45
195960	3846	Cast iron yoke	69-693	$\frac{1}{2}$	5	.23
195961	3847	Cast iron yoke	69-693	$\frac{3}{8}$	5	.23

Carton, 10. Standard package, 20.

\*These sockets have even diameter of  $2\frac{3}{16}$  inches.



No. 69



No. 698



No. 3879



No. 2512



## BENJAMIN PENDENT AND WALL SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

Keyless, 660 Watts, 600 Volts; Lever Key, 250 Watts, 250 Volts



No. 4404



No. 4422

## COPPER CAP SOCKETS

## Less Lamp Grip—Keyless

Trade No.	Mfr. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
195974	*4404	3/8-inch cap, less bead.	100	27	.80
195975	*4406	1/2-inch cap, less bead.	100	27	.80
195978	4410	3/8-inch cap, with bead.	100	27	.90
195979	4411	1/2-inch cap, with bead.	100	27	.90

## With Lamp Grip—Keyless

195982	*4416	3/8-inch cap, less bead.	100	27	.90
195983	*4418	1/2-inch cap, less bead.	100	27	1.00
195986	4422	3/8-inch cap, with bead.	100	27	.90
195987	4423	1/2-inch cap, with bead.	100	27	1.00

## Less Lamp Grip—Lever Key

195990	4427	3/8-inch cap, with bead.	100	27	.90
195991	4428	1/2-inch cap, with bead.	100	27	1.00

## With Lamp Grip—Lever Key

195994	4459	3/8-inch cap, with bead.	100	27	1.00
195995	4460	1/2-inch cap, with bead.	100	27	1.00

\*Maximum diameter, 1 5/8 inches.



No. 4427



No. 4440

## COMPOSITION SOCKETS

## With Leads

Sockets are equipped with 9-inch leads of approved No. 14 gauge rubber covered stranded wire, swaged and sealed in socket terminals. No. 4440 has threaded copper cap with set screws.

## With Lamp Grip

203112	4440	3/8-inch cap, with bead.	100	29	1.10
203113	7901	No cap, less bead.	100	23	.60



No. 7901



No. 241

## PENDENT SOCKETS

Pendent sockets have cap with 1 1/2-inch opening for accommodating re-enforced lamp cord.

## Keyless

195996	256	Without lamp grip.	100	69	.50
195997	257	With lamp grip.	100	26	.58

## Lever Key

195998	241	Without lamp grip.	100	69	.54
195999	249	With lamp grip.	100	26	.62

## WALL SOCKETS

These sockets have wall base 2 inches in diameter for concealed wiring. Supporting screw holes are slotted, spaced for 1 3/8 to 1 5/8-inch centers. Sockets have bead except as indicated.

## Keyless

196000	341	Without lamp grip.	100	25	.53
196001	342	With lamp grip.	100	25	.61
196002	358	With lamp grip, less bead.	100	25	.61

## Lever Key

196003	343	Without lamp grip.	100	25	.58
196004	344	With lamp grip.	100	25	.66



No. 257

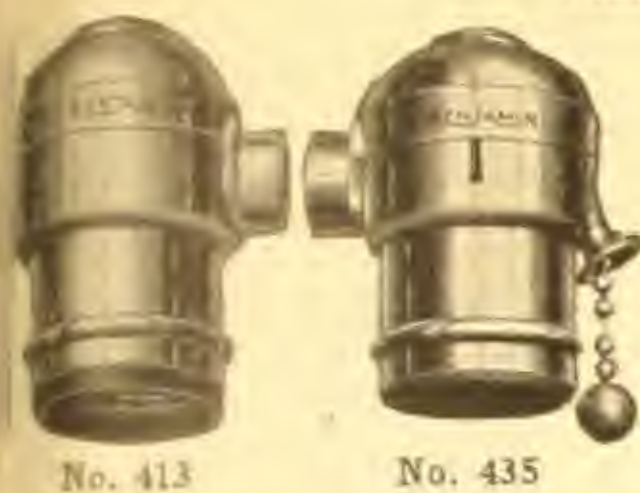


No. 342



# BENJAMIN BRASS SHELL SOCKETS

NATIONAL ELECTRICAL CODE STANDARD



No. 413

No. 435

## ANGLE SOCKETS

Standard finish is brush brass. For nickel finish, add 15 cents to price for key and keyless, 18 cents for pull sockets.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
020919	**411	1/8-inch, keyless	50	\$0.53
020920	**451	1/4-inch, keyless	50	.60
020921	**431	3/8-inch, keyless	50	.60
27479	**413	1/8-inch, key	50	.57
27480	**453	1/4-inch, key	50	.65
27481	**433	3/8-inch, key	50	.65
106273	*435	1/8-inch, pull	50	.98
106274	*436	1/4-inch, pull	50	1.07
106275	*437	3/8-inch, pull	50	1.07

## TWIN SOCKETS

Twin sockets are for multiple wiring. Nos. 426 and 427 can be wired in multiple, series or 3-wire multiple.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
020922	**412	1/8-inch fiber-lined	50	\$0.98
90172	**452	1/4-inch fiber-lined	50	1.05
90173	**432	3/8-inch fiber-lined	50	1.05
27487	**457	3/8-inch porcelain-lined	50	1.13
106278	†426	1/2-inch porcelain	50	1.50
106279	†427	3/8-inch porcelain	50	1.50

## FIBER SHELL LEVER KEY SOCKETS

For mounting in candle sticks or other wood fixtures.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
203114	*417	Key socket only	10	100	7 1/2	\$0.53

## BRASS COVERED MOGUL SOCKETS

1500 Watts, 600 Volts

Sockets Nos. 4274-4277 are porcelain-lined, brass covered devices for interior work. Standard finish is brush brass.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
120582	4274	3/8-in. bushing less lamp grip	10	20	15	\$1.80
120583	4275	3/8-in. bushing with lamp grip	10	20	15	1.95
120584	4276	1/2-in. bushing less lamp grip	10	20	15	1.80
120585	4277	1/2-in. bushing with lamp grip	10	20	15	1.95

## BRASS SHADE HOLDERS

Shade holders for the brass covered Mogul Sockets Nos. 4274-4277 are quickly attached by simply slipping over top of socket. Accommodate shades and reflectors with standard 3 1/4-inch necks. Standard finish is brush brass.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
120586	2506	With Mogul socket No. 4274	20	16 1/4	\$2.40
120587	2507	With Mogul socket No. 4275	20	16 1/4	2.55
120588	2508	With Mogul socket No. 4276	20	16 1/4	2.40
120589	2509	With Mogul socket No. 4277	20	16 1/4	2.55
198686	2070	Shade holder only	20	1 1/4	.60

\*250 watts, 250 volts.

\*\*660 watts, 250 volts.

†660 watts, 600 volts.



No. 4274



No. 2506



## BENJAMIN X TYPE FITTINGS AND SOCKETS



No. 4651

Used with Benjamin Reflector Sockets and Two-piece Hooded Reflector Fixtures. They may be ordered as replacement parts or may be used with all reflectors having flat surface at top of hood for seating flange  $2\frac{1}{4}$  inches in diameter. Sockets are equipped with Benjamin Lamp Grip, which prevents loosening and falling of lamps.

To insure that proper fitting is supplied, it will be necessary to give Mfrs. No. or description of reflector socket or fixture.

## MEDIUM BASE SOCKETS WITH FITTINGS

Keyless, Porcelain; Rating, 660 Watts, 600 Volts

Trade No.	Mfrs. No.	Description	Size Tapped Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
196014	4650	Socket with fitting	$\frac{3}{8}$	10	8 $\frac{1}{2}$	\$1.15
196015	4651	Socket with fitting	$\frac{1}{2}$	10	8 $\frac{1}{2}$	1.15
203115	4665	Socket with fitting	$\frac{3}{4}$	10	8 $\frac{1}{2}$	1.15



No. 4661

Pull Chain, Moulded Composition; Rating, 660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Size Tapped Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
196016	4660	Socket with fitting	$\frac{3}{8}$	10	6 $\frac{1}{2}$	2.05
196017	4661	Socket with fitting	$\frac{1}{2}$	10	6 $\frac{1}{2}$	2.05
203116	4667	Socket with fitting	$\frac{3}{4}$	10	6 $\frac{1}{2}$	2.05
196018	4664	Socket with stirrup only		10	2 $\frac{1}{2}$	1.15

## MOGUL BASE SOCKETS WITH FITTINGS

Keyless, Porcelain; Rating, 1500 Watts, 600 Volts

Trade No.	Mfrs. No.	Description	Size Tapped In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
196021	4656	Two-piece socket with fitting	$\frac{3}{8}$	10	10 $\frac{1}{2}$	1.80
196022	4657	Two-piece socket with fitting	$\frac{1}{2}$	10	10 $\frac{1}{2}$	1.80
203117	4666	Two-piece socket with fitting	$\frac{3}{4}$	10	10 $\frac{1}{2}$	1.80

## X TYPE FITTINGS

Trade No.	Mfrs. No.	Description	Size Tapped In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
203118	4653	Fittings for sockets listed above	$\frac{1}{2}$	10	4 $\frac{1}{4}$	\$0.51
203119	4652	Fittings for sockets listed above	$\frac{3}{8}$	10	4 $\frac{1}{4}$	.52
203124	4668	Fittings for sockets listed above	$\frac{3}{4}$	10	4 $\frac{1}{4}$	.51

NOTE. — When ordering, in addition to Mfrs. No. of fitting, give Mfrs. No. or description of fixture in order that proper fitting may be supplied.

Listings are given above of combined X Type Fittings and Sockets for the convenience of those desiring repair or replacement parts for Benjamin Reflector Sockets and Two-piece Removable Reflector Fixtures. Through the use of X Type Fitting, socket and lamp are supported direct by the fixture stem, while the reflector is independently supported between the upper and lower flanges. This makes a weatherproof and rigid connection.



No. 3622 Cover Attached to Outlet Box with Type X Fitting and Benjamin Reflector Socket

## OUTLET BOX COVERS

No. 3622 is a galvanized steel outlet box cover used with X Type Fittings for attaching Benjamin Reflector Sockets direct to the conduit box. The cover is placed between reflector and top flange, and is provided with four bayonet slots which slip over screws on box. No other fittings are necessary.



No. 3622

Trade No.	Mfrs. No.	Size Outlet Box Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
196048	3622	4	25	10	2 $\frac{3}{4}$	\$0.30



# BENJAMIN REFLECTOR SOCKET RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

660 Watts, 600 Volts



No. 288



No. 88

## ONE-PIECE PORCELAIN RECEPTACLES

### Medium Base

No. 288 is designed for medium screw base reflector sockets and will fit reflectors with flat necks which are not less than  $2\frac{1}{4}$  inches inside diameter. The binding screws are located in the wiring grooves at the bottom of the socket and are easily accessible, permitting an easy installation of the socket with the reflector in position. Holes for supporting screws are spaced  $\frac{1}{2}$  inches on centers.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
196023	288	With lamp grip	10	50	25	\$0.68

## TWO-PIECE PORCELAIN RECEPTACLES

### Medium Base

Two-piece porcelain sockets are designed for medium screw base reflector sockets and hood type fixtures. Binding screws are accessible for easy wiring. The separable feature and the rigidity with which the device can be wired, combine to make it desirable wherever a rugged, highly insulated socket should be used. Nos. 87, 88 have flat base. Screws are spaced  $1\frac{3}{4}$  inches on centers.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
196023	87	Without lamp grip	10	50	21	\$0.60
196024	88	With lamp grip	10	50	21	.68

## TWO-PIECE LOCKING SOCKETS

### Medium Base

Benjamin Locking Socket No. 86 accommodates all medium base lamps and locks the same in place automatically without the use of key. The latter is needed only when a lamp must be withdrawn for any reason.

It prevents the removal of the lamp until the proper key is used. Theft of lamps, which is a serious matter, can be averted by specifying Benjamin Locking Sockets on reflector fixtures.

Locking body No. 586 may be substituted for the body of No. 88 sockets now in use, without interference with the wiring.

Keys for locking sockets are furnished only with locking sockets or fixtures complete with locking sockets. Additional keys can be furnished only on order signed by an officer of company having an installation of Benjamin Locking Sockets.



No. 86  
with No. 1399 Key

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
196027	86	Socket only	50	22 $\frac{1}{2}$	\$1.20
196033	586	Locking body only	50	15	.90
196028	1399	Key for lock socket	..	..	1.50



## BENJAMIN SOCKETS AND RECEPTACLES



No. 81



No. 2073



No. 6C Receptacle with Cover



No. 61



No. 3629



No. 3623



No. 36235

## KEYLESS WALL SOCKETS

660 Watts, 250 Volts

Adapted for street railway lighting circuits, or for any service where high insulation is desirable. Can be attached to ceiling block, flange or outlet box cover.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
120592	81	1-light	50	\$0.6
120593	81F	1-light with $\frac{3}{8}$ -in. flange	50	.7

## SIGNAL SOCKETS

660 Watts, 600 Volts

These sockets are in keeping with the requirements of railway electric signal service. Furnishes with Benjamin Lamp Grip. Have binding posts, as shown, adopted as standard by the Railway Signal Association. Type C has round head brass machine screw type of binding terminal. Base is  $2\frac{1}{8} \times 1\frac{1}{2}$  in. height,  $1\frac{3}{4}$  in., screw holes spaced  $2\frac{5}{8}$  in. on centers.

120599	2073	R. S. A. terminals	50	1.3
120600	2074	Type C terminals	50	.9

## OUTLET BOX AND WALL RECEPTACLES

660 Watts, 250 Volts

No. 6C

No. 6C with cover consists of a steel plate to which a lamp grip receptacle is attached, and brass plate. Designed for use where receptacle is desired practically flush with the surface.

27488	6C	Receptacle, with bolts	100	.3
27494	36256	Cover for $3\frac{1}{4}$ -in. box	50	.3
27495	36258	Cover for 4-in. box	50	.4

No. 61

No. 61 is a two-piece wall receptacle with concealed binding terminals and lamp grip. Measures  $2\frac{1}{4}$  inches at the base.

27491	61	With lamp grip	100	.0
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Screw holes spaced  $1\frac{3}{4}$  inches on centers.

## MOLDED RECEPTACLES

Receptacles are high heat molded insulating material. Binding screws are at the top. Supporting screws holes are spaced  $1\frac{3}{4}$  inches on centers.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
203125	3629	With bolts, less lamp grip	50	10 $\frac{1}{2}$	\$0.72
203126	3630	With bolts, with lamp grip	50	10 $\frac{1}{2}$	.8

## BOX COVERS FOR STANDARD RECEPTACLES

For use with receptacles listed above and other Benjamin Outlet Box Receptacles; also take other makes of standard receptacles. Nos. 36235-36260 include holders for glassware. Screw hole spacings for standard outlet boxes.

GALVANIZED IRON  
Without Shade Holder

Trade No.	Mfrs. No.	Size Box Inches	Shade Holder In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
203127	3623	$3\frac{1}{4}$	...	50	7 $\frac{1}{2}$	\$0.11
203128	3624	4	...	50	8 $\frac{1}{2}$	.11

BRASS COVERED  
Without Shade Holder

203129	3623B	$3\frac{1}{4}$	...	50	8 $\frac{1}{2}$	.3
203130	3624B	4	...	50	15	.3

## With Shade Holder

203131	36235	$3\frac{1}{4}$	$2\frac{1}{4}$	50	11	.9
203132	36259	$3\frac{1}{4}$	$3\frac{1}{4}$	50	12	1.1
203133	36245	4	$2\frac{1}{4}$	50	17 $\frac{1}{2}$	.9
203138	36260	4	$3\frac{1}{4}$	50	18 $\frac{1}{2}$	1.2



## BENJAMIN OUTLET BOX RECEPTACLES



No. 6



No. 6T



No. 6B



No. 9401

### SIGN RECEPTACLES

660 Watts, 250 Volts

Nos. 6 and 6T have exposed binding terminals in rear. No. 6T has the terminals in cavities for soldering and cementing.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
020937	6	Receptacle with bolts	100	\$0.26
27490	6T	Receptacle with bolts	100	.26

Screw holes spaced  $1\frac{3}{4}$  inches on centers.

### OUTLET BOX RECEPTACLES

660 Watts, 250 Volts

Receptacles are designed for use in outlet boxes.

Their binding terminals do not project beyond the porcelain walls and therefore cannot ground on the metal parts of the box or conduit. Wires are easily spread around the base, making slack wire unnecessary. Nos. 6C and 6D have Benjamin Lamp Grip and spring center contact.

Receptacle No. 6D has clip terminals in the cavities of the base, adapting it for soldering and cementing on the job. No metal parts are therefore left exposed.

Supporting screw holes are spaced  $1\frac{3}{4}$  inches on centers.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
196044	6B	With bolts	25	100	16	\$0.26
27488	6C	With bolts and lamp grip	25	100	16	.38
196046	6D	With lamp grip	25	100	18	.30

### CLEAT RECEPTACLES

660 Watts, 250 Volts

Cleat type with Benjamin Lamp Grip is adapted for open work. Screw holes are slotted and spaced  $2\frac{3}{8}$  to  $2\frac{7}{8}$  inches on centers.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
120598	9401	With lamp grip	100	\$0.37½

### SKELETON RECEPTACLES

PORCELAIN BASE

660 Watts, 600 Volts

Designed for use in railway electric signal work. Supporting screw holes are spaced  $1\frac{1}{2}$  in. on centers.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Price Each
120601	1462	Without lamp grip	25	100	\$0.26
120602	1464	With lamp grip	25	100	.38

MOLDED BASE

660 Watts, 600 Volts

These receptacles have high heat composition molded base. They are for use where it is not essential that the screw shell socket itself be covered with a protecting insulation. Furnished with Benjamin Lamp Grip, which prevents lamps from jarring loose. Supporting screws are spaced  $1\frac{1}{8}$  to 2 inches on centers. Metal parts are brass.

120603	6965	Without lamp grip	100	.68
120604	G6965	With lamp grip	100	.80



No. 1464



No. G6965



## BENJAMIN OUTLET BOX FITTINGS

NATIONAL ELECTRICAL CODE STANDARD



No. 1402



No. 1410



No. 4234



No. 4232



No. 1412



No. 4847\*



No. 1413

## OUTLET BOX FITTINGS

FOR TYPE S HOLDERS AND REFLECTORS

660 Watts, 250 Volts

These outlet box fittings afford a method of attaching any one of the numerous sizes of Type S Holders or Reflectors and fixtures with connectors Nos. 1412 and 1416. Interchange of holders, reflectors or fixture types is thus made easy.

Fittings consist of brass cover, receptacle interior and attaching parts. The deep box type is usually connected direct to ears of box. Where offset box covers are plastered in, this type can be attached direct to the ears, if tapped or to bottom of box or fixture stud by means of special stirrup. The shallow box type is attached either direct or through a strap intended for central support.

Lamp grip is furnished at 7½ cents advance in list.

## Deep Box Type

Trade No.	Mfrs. No.	Size of Box Inches	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
120353	1402	3¼	Deep box fitting.....	50	25	\$0.90
120354	1403	3¼	Less brass cover.....	50	20	80
120355	1404	3¼	Brass cover only.....	100	5	30
120356	1405	4	Deep box fitting.....	50	27	95
120357	1406	4	Less brass cover.....	50	23	65
120358	1407	4	Brass cover only.....	50	4	30

## Shallow Box or Surface Mounting Type

120359	1410	4	Shallow box fitting.....	50	16	1.35
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Holes of Nos. 1402-1404 are spaced 2¾ inches on centers; Nos. 1405-1407, 3½ inches; No. 1410, 3½ inches.

## TYPE S RINGS

For attaching Type S reflectors and holders to Condulet receptacles. No. 4234 is for attaching directly upon Crouse-Hinds R-K527 receptacle used in connection with R-K and R-J series of condulets. No. 4232 is for attaching directly upon Appleton No. 7736 receptacle used in connection with GN and HM series of unilets. Ring is of copper, natural finish.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
203139	4234	Ring for Crouse-Hinds Receptacles.....	100	4	\$0.24
203140	4232	Ring for Appleton Receptacles.....	100	4	24

## FIXTURE CONNECTORS

660 Watts, 250 Volts

Fixture connectors are flexi-swivel, mechanical and electrical couplings. They adapt a stem or chain fixture for quick attachment to, or interchange, on any of the outlet box fittings above. When required, a ¾x¾-inch hollow insulating joint can be inserted between connector and stem. Standard finish is brush brass.

120361	1412	For ¾-inch stem.....	50	11	\$0.90
120362	1416	For 3-chain fixture.....	50	18	1.20

## CHAIN SUPPORTING RINGS

These rings offer a simple method of attaching chain fixtures to the screw threaded portion of Benco sockets and ceiling units, or to outlet box fittings listed above. Standard finish is brush brass.

120363	1413	Supporting ring.....	100	2	45
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\*No. 4847 supplied as part of No. 1416.



## BENJAMIN PLUG SOCKET SPECIALTIES

### TWO-WAY PLUGS

The two-way plug makes one socket do the work of two. It fits any medium screw base socket or wall receptacle. Anyone can use it as it requires no wiring.

Trade No.	Mfrs. No.	No. of Lights	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020912	*92	2	Multiple	10	4	\$1.25
020915	*92½	2	Series	10	4	1.50



No. 92

### THREE AND FOUR-WAY PLUGS

Nos. 93 and 94 are the same as the two-way plug, the only difference being in the number of outlets. No. 92½ is the same, except that it is arranged for series wiring instead of multiple.

Trade No.	Mfrs. No.	No. of Lights	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020913	93	3	Multiple	10	6	\$2.00
020914	94	4	Multiple	10	6	2.25



No. 292

### PULL PLUGS

#### With Pull Chain Governing the Lamp Outlet

The Benjamin Pull Chain Plug is like No. 92, except that one outlet has been equipped with a rugged pull chain mechanism which permits turning the lamp on and off without interfering with the use of an appliance on the other outlet.

Trade No.	Mfrs. No.	No. of Lights	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
120339	292	2	Multiple	10	6	\$2.25



No. 2452

### SHADE HOLDERS FOR PLUG CLUSTERS

This shade holder is offered as a means whereby a glass lamp shade may be used in connection with the plug clusters above. To attach, unscrew the porcelain ring of the plug cluster, then replace it through the Benjamin shade holder.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
192325	2452	2¼-in. shade holder	10	½	\$0.18



No. 10

### INSULATING RINGS FOR PLUG CLUSTERS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
196084	10	For wireless clusters and plug clusters only	50	2	\$0.08



No. 941

### PLUG ANGLE AND TWIN SOCKETS

Plug angle and twin sockets are useful in window lighting and similar places where it is desired to change the position of lamps from horizontal to the vertical. The rotating sleeve attaches and fixes the device in any position in a plane at right angles to the supporting receptacle.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
192329	*941	Angle socket, multiple	20	4	\$1.05
192330	*942	Twin socket, multiple	20	5	1.50
192331	*942½	Twin socket, series	20	5	1.50



No. 942

### ADJUSTABLE PLUG CLUSTERS

The sockets may be turned to any position between two points 180° apart and locked by means of a screw.

Two-light clusters and plugs may be wired two in series without change in price.

Trade No.	Mfrs. No.	No. of Lights	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038894	952	2	Wired	10	5	\$2.25
038895	953	3	Wired	10	6	2.85
With Pull Chain						
27377	955	2	Wired	10	5	3.15
27378	956	3	Wired	10	6	4.20



No. 955

\*National Electrical Code Standard.



## BENJAMIN WIRELESS CLUSTER BODIES

NATIONAL ELECTRICAL CODE STANDARD

## MULTIPLE CLUSTER BODIES

Type 1 requires no insulating joint when No. 14 approved wire is used. Aluminum metal shell may be ordered without change in price. Prices include steel flanges tapped for  $\frac{3}{8}$ -inch iron pipe. Standard finish is brush brass.



No. 23

## Type 2

Trade No.	Mfrs. No.	No. of Lights	Diameter Inches	Std. Pkg.	Price Each
020865	22	2	3	10	\$2.00
020866	23	3	3	10	2.40
106172	24	4	3	10	2.75

Type 2 has two supporting screw holes spaced  $1\frac{3}{4}$  inches on centers.



No. 15

## Type 1

020867	12	2	4	10	2.40
020868	13	3	4	10	2.75
020869	14	4	4	10	3.15
020870	15	5	4	10	3.50
020871	16	6	4	10	3.90

Three supporting screw holes are equally spaced on  $3\frac{5}{8}$ -inch centers.



No. 32

## Type 3

020887	32	2	$3\frac{3}{8}$	10	2.40
020888	33	3	$3\frac{3}{8}$	10	2.75
120328	$32\frac{1}{2}$	2 (Series)	$3\frac{3}{8}$	10	2.40

Type 3 has two supporting screw holes spaced  $1\frac{3}{4}$  inches on centers.

Nos. 34T and  
 $34\frac{1}{2}$  T

## Type 3T

120319	32T	2	$4\frac{1}{2}$	10	2.65
120320	33T	3	$4\frac{1}{2}$	10	3.00
120321	34T	4	$4\frac{1}{2}$	10	3.35
120322	35T	5	$4\frac{1}{2}$	10	3.75

Three supporting screw holes are equally spaced on  $3\frac{5}{8}$ -inch centers.

## SERIES CLUSTER BODIES

Series wireless clusters are used largely on street railway circuits for both indoor and outdoor service. They are regularly furnished without flange but  $\frac{3}{8}$ -inch steel flange may be specified without additional charge. Standard finish is brush brass.

No.  $22\frac{1}{2}$ Type  $2\frac{1}{2}$ 

Trade No.	Mfrs. No.	No. of Lights	Diameter Inches	Std. Pkg.	Price Each
106178	$22\frac{1}{2}$	2	8	10	\$2.40
106179	$23\frac{1}{2}$	3	8	10	2.75

Type  $2\frac{1}{2}$  has two supporting screw holes spaced  $1\frac{3}{4}$  inches on centers.

Type  $1\frac{1}{2}$ 

106180	$12\frac{1}{2}$	2	13	10	2.40
106181	$13\frac{1}{2}$	3	13	10	2.75
106182	$14\frac{1}{2}$	4	13	10	3.15
120329	$15\frac{1}{2}$	5	13	10	3.50

Type  $3\frac{1}{2}$ T

120830	$32\frac{1}{2}$ T	2	12	10	2.65
120331	$33\frac{1}{2}$ T	3	13	10	3.00
120332	$34\frac{1}{2}$ T	4	14	10	3.35
196343	$35\frac{1}{2}$ T	5	14	10	3.75

Types  $1\frac{1}{2}$  and  $3\frac{1}{2}$ T have three supporting screw holes, equally spaced on  $3\frac{5}{8}$ -inch centers.

No.  $15\frac{1}{2}$



## STAND LAMP CLUSTERS AND ADAPTERS

### BENJAMIN STAND LAMP CLUSTERS

Wireless stand lamp clusters furnish an easily wired unit for table and floor lamps, with the sockets and entire mechanism combined into one simple convenient device.

Clusters with one pull chain switch all the lamps on or off simultaneously. Clusters with two pull chains operate either one and one, or one and two lights at each pull.

Stand lamp clusters for special purposes may be supplied in quantities. Complete information and prices may be had on application.

#### CLUSTERS COMPLETE

Consist of pull chain cluster, top ornament, 6-inch stem and casing, finishing ring and coupling.

#### With One Pull Chain

Trade No.	Mfrs. No.	No. of Lights	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
150116	839	2	10	9 $\frac{3}{4}$	\$3.00
150117	840	3	10	10	3.40

#### With Two Pull Chains

150118	849	2	10	9 $\frac{3}{4}$	3.45
150119	850	3	10	10	3.85

Coupling at bottom of stem is tapped for  $\frac{1}{4}$ -inch iron pipe.

Coupling No. 5099 tapped  $\frac{1}{8}$ -inch, or flange, No. 5094 tapped  $\frac{1}{4}$ -inch furnished without extra charge, if specified.

For top and bottom tappings other than standard, special quotations will be made upon request.

#### CLUSTERS ONLY, WITHOUT MOUNTING PARTS

#### With One Pull Chain

150120	836	2	10	5 $\frac{1}{2}$	2.10
150121	837	3	10	5 $\frac{1}{2}$	2.50

#### With Two Pull Chains

150122	846	2	10	5 $\frac{1}{2}$	2.55
150123	847	3	10	5 $\frac{1}{2}$	2.95

Bottom tapped for  $\frac{1}{4}$ -inch, top tapped for  $\frac{1}{8}$ -inch iron pipe. Standard finish is brush brass.

### TIMBERLAKE ANCHOR ADAPTERS

Patents Pending

#### FOR CONVERTING POTTERY JARS OR VASES INTO COMPLETE ELECTRIC LAMPS

Tightening one screw attaches the adapter rigidly to jar. Swivel chain pull sockets permit lamps to be placed at any desired angle to accommodate any shape, flat or deep shade. Each adapter completely wired, with 6-foot silk cord and swivel plug. Anchor will pass through neck of jar as small as 1 $\frac{1}{2}$ -inch diameter. Threaded arms on anchor adjust to various shapes of jars. Covers, which fit over top of jar, made in four sizes only: 3-inch, 4-inch, 5-inch and 6-inch diameter. Specify sizes of covers wanted. Jars or vases not supplied.

#### Brushed Brass

Trade No.	Mfrs. No.	Size Stem In.	No. of Lights	Price Each
203095	56	6	2	\$7.05
203096	59	9	2	7.50
203097	512	12	2	8.00

#### Statuary Bronze

203098	66	6	2	7.05
203099	69	9	2	7.50
203100	612	12	2	8.00



No. 839

No. 836

No. 56



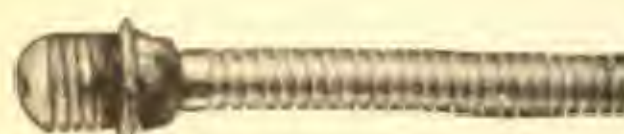
## BENJAMIN ATTACHMENT PLUGS AND CONNECTORS



No. 903



No. 904



No. 903H



No. 903L



No. 907



No. 935



No. 1006

## SWIVEL ATTACHMENT PLUGS

Plugs have swivel shell to facilitate attaching or removing plug without twisting cord. Standard bushing on No. 903 has  $\frac{1}{16}$ -inch opening.

No. 903E has a fibre bushing with  $\frac{3}{32}$ -inch cord opening. No. 903C has a metal set-screw with insulated tip for holding the outer braid. The entire cord is gripped—the end thus kept from fraying. No. 903F may be used with heavy reinforced cord or flexible armored cable. No. 904 is similar to No. 903, except that it has molded ring instead of a fibre washer and a bushing of smaller outside diameter.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
047777	*903	.....	100	6 $\frac{1}{4}$	\$0.25
27371	*903C	With insulated set-screw tip .....	100	9 $\frac{3}{8}$	.30
27380	*903F	With $\frac{1}{2}$ -inch opening .....	100	9 $\frac{3}{8}$	.30
27373	*904	With molded ring .....	100	9 $\frac{3}{8}$	.30
192318	*903E	With $\frac{3}{32}$ -inch cord opening .....	100	6 $\frac{1}{4}$	.25

## FLEXI-HANDLE ATTACHMENT PLUGS

No. 903H consists of a No. 903 attachment plug, to the swivel threaded portion of which is added a flexible metal extension 5 inches long. The cord passes through the hollow stem, which turns freely upon it, and prevents twisting. The device adds 5 inches to the reach and makes easier the attachment of portable appliances. The flexible handle also protects the cord at a point exposed to much wear. Cord gripping cap accommodates reinforced cable up to  $\frac{1}{4}$ -inch in diameter.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
27382	903H	With 5-inch extension .....	100	15 $\frac{5}{8}$	\$1.20

## HEAVY DUTY SWIVEL PLUGS

Molded composition plug with swivel shell, for railroad and heavy work. Bushing has  $\frac{9}{16}$ -inch opening, with set screw for holding cord.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
192304	903L	Heavy duty plug .....	100	21 $\frac{7}{8}$	\$0.85

## SOLID ATTACHMENT PLUGS

Solid plugs have porcelain base and composition cap held together with central binding screw.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
27375	*907	Solid plug .....	100	6 $\frac{1}{4}$	\$0.20
192301	907B	Black porcelain top .....	100	6 $\frac{1}{4}$	.19

## SEPARABLE CORD CONNECTORS

660 Watts, 250 Volts

Composition body with double spring contacts, making contact area extra large. Cord opening  $\frac{1}{4}$ -inch—ample cord tying space.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
192311	935	Cord connector complete .....	100	12 $\frac{1}{2}$	\$0.45
192312	936	Connector receptacle only .....	100	6 $\frac{1}{4}$	.30
192313	938	Standard cap only .....	100	6 $\frac{1}{4}$	.15

## PARALLEL BLADE ADAPTERS

Body is brass shell or porcelain. Standard spaced parallel blades and Edison medium screw base receptacle. Capacity, 660 watts, 250 volts.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
192314	1006	Brass shell, fibre lined .....	30	1 $\frac{7}{8}$	\$0.30
196102	1009	Porcelain body .....	30	3 $\frac{3}{4}$	.25

Standard metal finish is brass unless otherwise specified.  
\*National Electrical Code Standard.



# BENJAMIN ATTACHMENT PLUGS AND RECEPTACLES

## CONVERT-A-CAP AND BASE SEPARABLE PLUGS

660 Watts, 250 Volts

The convert-a-cap is easily adaptable to any of the most common slotted bases or receptacles.

The cap is of high heat molded composition with two finger grips and milled edges to facilitate removal. Either of the two brass blades may be turned through an angle of 90 degrees, so that the cap can be made to fit any of the parallel, in line, T slot or polarized styles of slotted bases or receptacles. Cord opening is  $\frac{1}{2}$  inches, with ample space for cord tying. Binder screw connections are easily accessible.

The base is made of same material as convert-a-cap. Parallel double springs make contact on both sides of each blade of cap. Fits any Edison base socket or receptacle.



No. 1000

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
192305	*1000	Convert-a-cap and base. . . . .	100	12 $\frac{1}{2}$	\$ .35
192306	* 937	Convert-a-cap only. . . . .	100	6 $\frac{1}{4}$	.25
192307	* 940	Standard base only. . . . .	250	15 $\frac{5}{8}$	.10

## PARALLEL BLADE SEPARABLE PLUGS

660 Watts, 250 Volts

Cap is of high heat molded composition with milled edge to facilitate removal. Parallel blades of standard sizes and spacing. Cord opening  $\frac{1}{2}$ -inch with ample space for cord tying. Binder screws easily accessible.

The base of same material as cap. Parallel double springs make contact area extra large. Fits medium screw receptacles.



No. 1001

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
192308	*1001	Parallel blade, cap and base. . . . .	250	62 $\frac{1}{2}$	\$0.25
192309	* 938	Parallel blade cap only. . . . .	100	6 $\frac{1}{2}$	.15
192310	* 940	Standard base only. . . . .	250	15 $\frac{5}{8}$	.10

## ANGULAR SEPARATION ATTACHMENT PLUGS

660 Watts, 250 Volts

Separable attachment plug No. 919 will break upon the application of a small force at any angle. This function is a safety factor. Accidental contact with the cord does not dislodge the appliance in use.

The cap is of high-heat molded composition with bead to facilitate removal. Cord opening  $\frac{1}{2}$ -inch; ample space for cord tying.

The base of black porcelain. Fits medium screw receptacles.



No. 919

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
196117	919	Cap and base. . . . .	100	12 $\frac{1}{2}$	\$0.25
196119	7624	Cap only. . . . .	100	6 $\frac{1}{4}$	.15

## ANGULAR SEPARATION PLUG RECEPTACLES

660 Watts, 250 Volts

A porcelain plug receptacle for conduit box and open work, and which can be used with Crouse-Hinds Condulets, Types W, WC, WL, WT, and WX. Holes for supporting screws are spaced  $\frac{5}{8}$ -inch on centers.

Composition cap No. 7624 is the same as shown with No. 919 Plug above.



No. 7640

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
196120	7632	Receptacle only. . . . .	50	10 $\frac{1}{2}$	\$0.25
196121	7640	Receptacle and comp. cap. . . . .	50	13 $\frac{1}{2}$	.40
196122	7641	Receptacle and copper-cased cap. . . . .	50	13 $\frac{3}{4}$	.55
196123	7624	Composition cap only. . . . .	100	6 $\frac{1}{4}$	.15
196124	7625	Copper cased cap only. . . . .	100	7	.30



## BENJAMIN ATTACHMENT PLUGS AND ADAPTERS

## BAYONET AND TWO-PIN TYPES

## BAYONET BASE SOLID PLUGS

660 Watts, 250 Volts

No. 927 plug is black molded composition with an encasing ring of brass around the base. Wires pass through the plug to terminals for soldering.

No. 929 plug has a cap of black molded composition with a porcelain base. There is ample space in cap for cord knotting. Metal parts are of brass.



No. 927



No. 929

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
202383	927	Plug only for soldered connection	100	7	\$0.25
202384	929	Plug only with binder screws	100	9 1/4	2



No. 928



No. 90

## BAYONET BASE AND EDISON ADAPTERS

660 Watts, 250 Volts

No. 928 adapts a bayonet base socket to Edison base lamps and attachment plugs. Base is porcelain. Shell is brass with fiber lining. Contacts are brass.

No. 90 adapts an Edison screw base socket to bayonet base lamps and attachment plugs. Metal parts are brass. Has head for standard shade holder.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
202385	928	Bayonet base to Edison	100	9 1/4	\$0.40
202386	90	Edison base to bayonet	100	12 1/4	70



No. 3113



No. 3112

## TWO-PIN PLUGS

## Composition

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
202387	†3112	Composition plug only	100	3 1/2	\$0.15

## Porcelain

202388	†3113	Black glazed plug only	100	9	10
202389	†3114	White glazed plug only	100	9	10
202390	*3115	Black glazed plug only	100	9	2

\*No. 3115 has binder screw connections.

†On Nos. 3112, 3113 and 3114, the two pins are removable and act as binder screws for wire connections.



No. 3117



No. 3130

## TWO-PIN SCREW BASE TWIN CURRENT TAPS

Nos. 3117 and 3118 will fit any Edison screw base socket, will accommodate two two-pin plugs and an Edison screw base lamp or attachment plug at the same time. Base furnished in either Black or White porcelain.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
202391	3117	White glazed, less plugs	100	21	\$0.75
202392	3118	Black glazed, less plugs	100	21	8

## EDISON TWO-PIN SCREW BASE ADAPTERS

No. 3130 makes it possible to connect any two-pin plug to any Edison screw base socket. Base is white porcelain.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
202393	3130	White glazed, less plug	100	14	\$0.15



No. 3104

## TWO-PIN WALL RECEPTACLES

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs.	Price Each
202394	3104	White glazed, less plug	100	16	\$0.15
202395	3105	Black glazed, less plug	100	16	1



# BENJAMIN SLOTTED FLUSH RECEPTACLES

## FLUSH RECEPTACLES WITH DOUBLE T SLOTS

10 AMPERES, 250 VOLTS

Any 10-ampere standard straight blade cap will fit these receptacles with double T slots.

A steel mounting plate extends over the surface of the wall and automatically adjusts the receptacle to an accurately flush position. Receptacle is one inch deep. Supporting screw holes of the adjusting plate are spaced  $3\frac{3}{4}$  inches on centers. Cover plate is  $4\frac{1}{2} \times 2\frac{3}{4}$  inches. Cover screw holes are spaced  $2\frac{3}{8}$  inches on centers. Standard finish is brushed brass.



No. 7653

### Single Outlet

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
202419	7651	Receptacle only.....	100	56	\$0.50
202420	7652	Cover plate only.....	100	32	.20
202421	7653	Receptacle and plate.....	100	88	.70
202422	937	Convert-A-Cap only.....	100	6 $\frac{1}{4}$	.25
89974	938	Paralled blade cap.....	100	6 $\frac{1}{4}$	.15

### Duplex

202423	7654	Duplex receptacles only.....	100	80	.75
202424	7655	Cover plate only.....	100	30	.25
202425	7656	Duplex receptacle and plate.....	100	110	1.00
202426	937	Convert-A-Cap only.....	100	6 $\frac{1}{4}$	.25
89974	938	Parallel blade cap.....	100	6 $\frac{1}{4}$	.15

## RECEPTACLES WITH PARALLEL SLOTS

20 AMPERES, 125 VOLTS

### Designed for Farm Lighting Circuits

Benjamin 20-ampere slotted receptacles were designed primarily for use on farm lighting circuits to connect home appliances, some of which, on account of low voltage, require a current in excess of the ordinary 10-ampere receptacles.

Either a 10 or 20-ampere cap can be used. This feature makes it possible for appliances, such as vacuum cleaners, washing machines and portable lamps, requiring less than 10 amperes, to be attached without changing from the cap furnished with them.

The 20-ampere cap, No. 7683, has  $\frac{7}{16}$ -inch cord opening and will separate from the receptacle by a pull from any angle, an important protective feature.

### Flush Receptacles

Receptacle has steel adjusting plate, is one inch deep and fits any standard box with mounting holes spaced  $3\frac{3}{4}$  inches on centers. Brass cover plate is  $4\frac{1}{2} \times 2\frac{3}{4}$  inches. Standard finish is brushed brass.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
89968	7681	Receptacle, cover plate and cap	30	26 $\frac{1}{4}$	\$1.40
89969	7682	Receptacle, cover plate, no cap	30	16 $\frac{7}{8}$	1.10
202396	7689	Receptacle only.....	30	13 $\frac{1}{8}$	.85
89970	7683	20-ampere cap only.....	30	9 $\frac{3}{8}$	.30
89973	7686	Single rectangular cover plate..	30	3 $\frac{3}{4}$	.35
89974	938	10-ampere standard cap.....	100	6 $\frac{1}{4}$	.15

### Surface Receptacles

Receptacle has all the features described above except that it is for surface mounting only. Base is of strong molded material  $2\frac{1}{8}$  inches in diameter. Mounting screw holes are spaced  $1\frac{1}{8}$  inches on centers.

89972	7685	Receptacle with cap.....	30	18 $\frac{3}{4}$	.80
89971	7684	Receptacle only.....	30	9 $\frac{3}{8}$	.50
89970	7683	20-ampere cap only.....	30	9 $\frac{3}{8}$	.30
89974	938	10-ampere standard cap.....	100	6 $\frac{1}{4}$	.15



No. 7681



No. 7685



## BENJAMIN ADAPTER SPECIALTIES



No. 4396

## MOGUL BASE SOCKET EXTENSIONS

660 Watts, 250 Volts

Mogul socket extensions, Nos. 4396 and 4397 are for use with fixtures using mogul base lamps where the sockets are in fixed position and too high. By means of this device the socket may be extended 2½ inches and the lamp filament lowered correspondingly. Body is porcelain, with shell and contact parts of copper.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
192326	4396	Without lamp grip	6¼	10	\$1.1
192327	4397	With lamp grip	6½	10	1.5

## MEDIUM BASE SOCKET EXTENSIONS

660 Watts, 250 Volts

Socket extension No. 91 offers a convenient means of attaching glassware where the outlet does not otherwise permit it. The brass shell is provided with a bead for taking standard shade holder. It increases the length of socket only 1¼ inches and is especially serviceable in connection with flush sockets or ceiling receptacles. In finish work it is useful in dropping small wattage lamps to a lower position in reference to deep reflectors. Spring catch on plug holds device securely in the receptacle.

Standard finish is lacquered brass.



No. 91

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020934	91	Extension	10	50	5	\$0.3



No. 98

## REDUCERS

660 Watts, 250 Volts

No. 98 is designed for adapting mogul screw base sockets for use with medium screw base lamps. When attached, the center contact is lowered ⅜-inch, bringing the filament of the medium base lamp close to its proper position. Both threaded shells are made of copper.

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
27374	98	Reducer	50	50	7½	\$0.3

## ADJUSTABLE PLUG SOCKETS

660 Watts, 250 Volts

This socket is designed for changing the angle of lamps to the vertical. A swivel shell permits the complete revolution of the adapter, while the hinged joint allows 63 degrees of angular adjustment. It can be used to advantage in any case requiring a change in the angle of attaching. Standard finish is brushed brass.



No. 99

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
192328	99	Adjustable plug socket	25	25	5	\$1.0

## CURRENT TAPS

Plug current taps are designed to facilitate the attaching and detaching of portable devices. The body of the tap may be rotated to any desired position, for accommodating the attaching plug and cord, and fixed by means of a rotating sleeve. Lamp is controlled by a lever key switch. No. 96 includes No. 97 plug.



No. 96

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
060335	*96	Multiple	50	10	\$1.2
27383	*97	Plug only	50	1½	.3

## CURRENT TAP SOCKETS

250 Watts, 250 Volts

Current tap sockets Nos. 496-499 are intended to take the place of standard sockets in fixtures. Body of the socket may be rotated and fixed in any position conveniently accommodating plug and cord. Lamp is controlled by a lever key switch.



No. 496

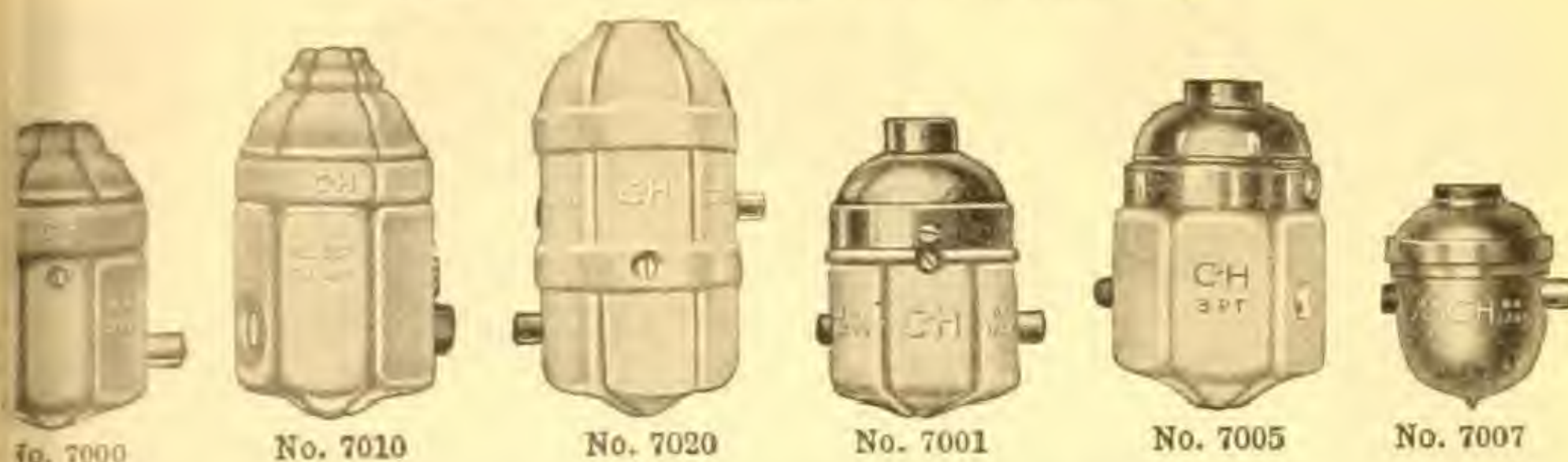
Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
192340	*496	1½-inch multiple	50	13	\$1.35
196081	*497	1¼-inch multiple	50	14	1.55
196082	*498	3/8-inch multiple	50	14	1.42
27383	*97	Plug only	50	1½	.38

\*National Electrical Code Standard.



## C-H PUSH BUTTON SWITCHES

NATIONAL ELECTRICAL CODE STANDARD



## PENDENT SWITCHES

All Porcelain. Standard Finish Gray or White when Specified



Trade No.	Mfrs. No.	Description	CAP., AMPS. 125V. 250V.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020588	7000	Single-pole.....	6 3	100	30	\$0.50
020589	7010	Single-pole.....	10 5	100	40	.70
27509	7020	Two-circuit.....	6 3	50	25	1.00

Brass Cap, Threaded for 3/8-inch Pipe

020590	7001	Single-pole.....	6 3	100	34	.55
020591	7004	Three-way.....	6 3	50	17	.70

Brass Cap, Threaded for 3/8-inch Pipe

020592	7002	Single-pole.....	6 3	100	34	.60
020593	7005	Three-way.....	6 3	50	18	.75

Brass Cap, Bushed for Pendent Cord

020594	7003	Single-pole.....	6 3	100	31	.55
020595	7006	Three-way.....	6 3	50	17	.70

Standard package may contain assortment of standard colors.

All Brass, Acorn Design

020257	7007	Single-pole.....	6 3	100	15	.50
020596	7021	Two-circuit.....	6 3	50	14	1.00

Standard finish, brush brass. Polished brass furnished at the same price. For switches in any other finish, add 10 cents to list price.

## FEED-THROUGH OR CORD SWITCHES

Brass Shell, Polished Nickel

Trade No.	Mfrs. No.	Description	CAP., AMPS. 125V. 250V.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020602	7040	Single-pole.....	6 3	50	8	\$0.60
27508	7044	Three-heat, two-circuit...	6 3	50	15	1.00

Molded Thermoplas

27510	7050	Single-pole.....	6 3	50	8	.50
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\*Standard Package Discount will be Allowed on the Following Assortments

100 Nos. 7001, 7002 and 7003, in unbroken cartons containing 10 each.  
50 Nos. 7004, 7005 and 7006, in unbroken cartons containing 10 each





## C-H PUSH BUTTON SPECIALTIES



No. 7150



No. 7151



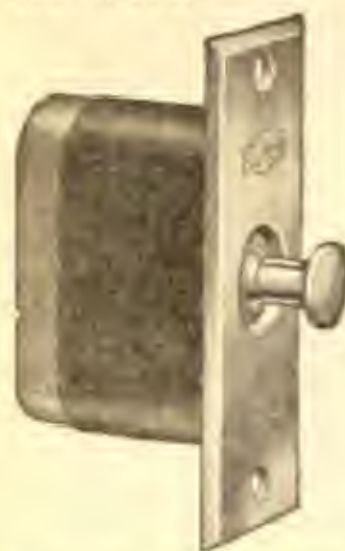
No. 7141



No. 7152



No. 7155



Nos. 7160 and 7161



No. 7195



No. 7240



No. 7245

## PUSH BUTTON CANDELABRA SWITCHES

Trade No.	Mfrs. No.	Description	1½ Ampere, 125 Volts	Carton	Std. Pkg.	Std. Wt. Lbs.	Price Each
058184	7150	Stem for 4-inch candle.....		20	100	20	\$0.00
Extra stems, 6 cents each. Std. pkg., 50. Extra push bars, 10 cents each.							

## PUSH-AND-PULL CANOPY SWITCHES

3 AMPERES, 125 VOLTS; 1 AMPERE, 250 VOLTS

3 AMPERE, 125 VOLTS, 1 AMPERE, 250 VOLTS						
Push Button in to Close Circuit						
058185	7151	For sheet canopy $\frac{3}{8}$ in. stem and bushing . . . . .	20	100	11	7
41133	7141	Like No. 7151 but with removable button . . . . .	20	100	11	7
058186	7152	For cast canopy $\frac{3}{8}$ in. stem and bushing . . . . .	20	100	12	8
41134	7142	Like No. 7152 but with removable button . . . . .	20	100	12	8
41135	7153	With 1-in. stem and bushing . . . . .	20	100	13	8
41136	7154	With $\frac{3}{4}$ -in. stem and bushing . . . . .	20	100	13	8
058251	7155	For bottom shell, with knob threaded $\frac{1}{4}$ in. x27 to receive standard bottom fixture knob . . . . .	20	100	12	8
060022	7156	Steel yoke to mount No. 7155 in bottom shell . . . . .	50	50	1	0
Pull Button Out to Close Circuit						
41128	7157	For sheet canopy . . . . .	20	100	11	7
41129	7158	For cast canopy . . . . .	20	100	12	8
Std. finish, brush brass; pol. brass or nickel, no extra charge.						

## AUTOMOBILE LIGHTING SWITCHES

Switches only, without Plates—10 Amperes, 80 Volts

Switches Only, without Plates—10 Amperes, 80 volts						
058187	7160	Single switch.....	20	100	15	5
058188	7172	Gang of two switches.....	10	50	15	1.1
058189	7173	Gang of three switches.....	6	30	14	1.0
058190	7174	Gang of four switches.....	5	25	15	2.2
41131	7177	Series parallel switch.....	10	50	20	1.4

Switches only, without Plates—6 Amperes, 40 Volts; 3 Amperes, 80 Volts

41127	7170	Single three-way switch.....	20	100	15	1.0
Struck Up Plates for Automobile Lighting Switches						
058191	7161	For single switch.....		100		
058192	7162	For gang of two switches.....		50		
058193	7163	For gang of three switches.....		30		
058194	7164	For gang of four switches.....		25		
41132	7178	Special plate for No. 7177.....		50		

FINISHES: Polished nickel furnished unless otherwise ordered. Black enamel, brush brass, or polished brass furnished without extra charge. Switch buttons are furnished in same finishes. With black enamel plates polished nickel buttons are furnished.

## AUTOMOBILE DOOR SWITCHES

With Flush Plate and Strike Plate—5 Amperes, 80 Volts

with Flush Plate and Strike Plate—5 Amperes, 80 Volts						
41121	7195	Single-pole .....	20	100	22	1.0
41130	7196	Three-wire .....	20	100	22	1.0

## STANDARD DOOR SWITCHES

6 AMPERES, 125 VOLTS; 3 AMPERES, 250 VOLTS

With Plate and Approved Box for No. 14 Two-wire Armored Cable							
058195	7240	Circuit closed when door is open..	5	25	20	2.5	
058196	7241	Circuit closed when door is closed..	5	25	20	2.5	

NOTE.—The box is  $1\frac{1}{2}$  inches wide by  $2\frac{3}{4}$  inches long. The plate is  $4\frac{1}{2}$  inches by  $1\frac{1}{4}$  inches and will fit no other box.

NOTE.—The box is 1½ inches wide by 2¾ inches long. The plate is 4 inches by 1¼ inches and will fit no other box.

Without Box, but with Universal Plate

058197	7245	Circuit closed when door is open..	5	25	15	2.2
058198	7246	Circuit closed when door is closed..	5	25	15	2.2

NOTE.—The universal plate is 5¾ inches by 1¾ inches. With this plate and the yoke by which it is attached to the switch, any door switch box may be used, regardless of distance between screw holes.

\*Standard Package Discount will be Allowed on the Following Assortments:

100 Nos. 7151, 7152, 7153, 7154 and 7155, 7157 and 7158 or 7141 and 7142 in unbroken cartons containing 20 each.

25 Nos. 7240, 7241, 7245 and 7246, in unbroken cartons containing 5 each.



# C-H PUSH BUTTON SPECIALTIES

NATIONAL ELECTRICAL CODE STANDARD



No. 7103



No. 7108



No. 7110



No. 7112

## INDICATING SURFACE PUSH SWITCHES, SINGLE-POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
77539	7103	Rectangular Porcelain Base.....	10	100	32	\$0.35
Supporting screw holes are spaced $1\frac{5}{16}$ inches on centers.						
77540	7105	For Paiste Taplets.....	10	100	32	.35
Supporting screw holes are spaced $2\frac{3}{8}$ inches on centers.						
77541	7108	Round Porcelain Base.....	10	100	24	.32
Outside diameter of base 2 inches. Supporting screw holes are spaced $1\frac{3}{8}$ inches on centers.						
77542	7110	Round Slotted Porcelain Base...	10	100	24	.32
Outside diameter of base 2 inches. Supporting screw holes are spaced $1\frac{3}{8}$ inches on centers.						
77543	7112	One way base, for National.....				
		Metal Moulding.....	10	100	38	.40
77544	7114	Two way base, for National....				
		Metal Moulding.....	10	100	30	.40
Outside diameter of base 2 inches. Supporting screw holes are spaced $1\frac{3}{8}$ inches on centers.						
Caps with slot for inserting label furnished when specified.						
All C-H Snap Switches have a white glazed base and a polished nickel cap.						

A standard package may be made up of an assortment (in unbroken unit packages) of any one catalog number with and without label holders.

## PORCELAIN SUB-BASES

For C-H Surface Switch No. 7103

77545	7120	For open wiring.....	20	100	38	.05
77546	7121	For end of moulding.....	20	100	38	.05
77547	7122	For concealed wiring.....	20	100	42	.05

A standard package may be made up of an assortment (in unbroken unit packages) of 100 sub-bases.

## PULL SWITCHES

Single-pole—6 Amperes, 125 Volts; 3 Amperes, 250 Volts

C-H 6-ampere Pull Switches, despite their large capacity, are of small and neat design, the shells being interchangeable with C-H Brass Shell Sockets. The pendent types Nos. 7310 and 7311 have an approved cord strain relief which eliminates the need for knotting of the cord.

81203	7300	$\frac{1}{8}$ -inch cap.....	10	50	12	.60
81204	7302	$\frac{1}{4}$ -inch cap.....	10	20	5	.69
81205	7304	$\frac{3}{8}$ -inch cap.....	10	20	5	.66
81206	7310	Pendent cap.....	10	20	5	.60
81207	7312	$\frac{1}{8}$ -inch male cap.....	10	20	5	.60
81208	7313	$\frac{1}{4}$ -inch male cap.....	10	20	5	.69
81209	7314	$\frac{3}{8}$ -inch male cap.....	10	20	5	.69

## Fixture Pull Switches

81210	7306	$\frac{1}{8}$ -inch cap.....	10	50	12	.75
81211	7307	$\frac{1}{4}$ -inch cap.....	10	20	5	.84
81212	7308	$\frac{3}{8}$ -inch cap.....	10	20	5	.81
77534	7311	Pendent cap.....	10	20	5	.75
77535	7315	$\frac{1}{8}$ -inch male cap.....	10	20	5	.75
77536	7316	$\frac{1}{4}$ -inch male cap.....	10	20	5	.84
77537	7317	$\frac{3}{8}$ -inch male cap.....	10	20	5	.84

## Ceiling Pull Switches

77538	7320	Porcelain base.....	10	20	10	.71
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Outside diameter of porcelain base of No. 7320 is 2 inches. Supporting screw holes spaced 1 inch on centers.



No. 7120



No. 7300



No. 7320



No. 7311

















## HUBBELL SOCKETS AND PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SOCKETS—SCHEDULE B; SWITCHES—SCHEDULE F

QUICK CATCH INTERCHANGEABLE CAPS

The Caps Listed Below will fit Bodies Listed on the Preceding Page

<p>No. 11 ¾-inch Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141310</td><td>\$0.07</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>500</td></tr></table>	Trade No.	Price Each	141310	\$0.07	Std. Pkg.		Carton 25	500	<p>No. 12 ¾-inch Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141311</td><td>\$0.16</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>250</td></tr></table>	Trade No.	Price Each	141311	\$0.16	Std. Pkg.		Carton 25	250	<p>No. 13 ¾-inch Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141312</td><td>\$0.13</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>250</td></tr></table>	Trade No.	Price Each	141312	\$0.13	Std. Pkg.		Carton 25	250	<p>No. 14 Pend. Socket Cap Comp. Bushing</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141313</td><td>\$0.07</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>500</td></tr></table>	Trade No.	Price Each	141313	\$0.07	Std. Pkg.		Carton 25	500
Trade No.	Price Each																																		
141310	\$0.07																																		
Std. Pkg.																																			
Carton 25	500																																		
Trade No.	Price Each																																		
141311	\$0.16																																		
Std. Pkg.																																			
Carton 25	250																																		
Trade No.	Price Each																																		
141312	\$0.13																																		
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Trade No.	Price Each																																		
141313	\$0.07																																		
Std. Pkg.																																			
Carton 25	500																																		
<p>No. 55 Pendent Socket Cap (Proc. Strain Relief Bushing)</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141314</td><td>\$0.07</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>500</td></tr></table>	Trade No.	Price Each	141314	\$0.07	Std. Pkg.		Carton 25	500	<p>No. 15 ¾-inch Male Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141315</td><td>\$0.07</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>100</td></tr></table>	Trade No.	Price Each	141315	\$0.07	Std. Pkg.		Carton 25	100	<p>No. 16 ¾-inch Male Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141316</td><td>\$0.16</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>50</td></tr></table>	Trade No.	Price Each	141316	\$0.16	Std. Pkg.		Carton 25	50	<p>No. 17 ¾-inch Male Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141317</td><td>\$0.16</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>250</td></tr></table>	Trade No.	Price Each	141317	\$0.16	Std. Pkg.		Carton 25	250
Trade No.	Price Each																																		
141314	\$0.07																																		
Std. Pkg.																																			
Carton 25	500																																		
Trade No.	Price Each																																		
141315	\$0.07																																		
Std. Pkg.																																			
Carton 25	100																																		
Trade No.	Price Each																																		
141316	\$0.16																																		
Std. Pkg.																																			
Carton 25	50																																		
Trade No.	Price Each																																		
141317	\$0.16																																		
Std. Pkg.																																			
Carton 25	250																																		
<p>No. 18 ¾-inch Angle Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141318</td><td>\$0.12</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>100</td></tr></table>	Trade No.	Price Each	141318	\$0.12	Std. Pkg.		Carton 25	100	<p>No. 19 ¾-inch Angle Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141319</td><td>\$0.21</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>100</td></tr></table>	Trade No.	Price Each	141319	\$0.21	Std. Pkg.		Carton 25	100	<p>No. 20 ¾-inch Angle Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141320</td><td>\$0.18</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>100</td></tr></table>	Trade No.	Price Each	141320	\$0.18	Std. Pkg.		Carton 25	100	<p>No. 21 ¾-inch Fixture Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141321</td><td>\$0.13</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>100</td></tr></table>	Trade No.	Price Each	141321	\$0.13	Std. Pkg.		Carton 25	100
Trade No.	Price Each																																		
141318	\$0.12																																		
Std. Pkg.																																			
Carton 25	100																																		
Trade No.	Price Each																																		
141319	\$0.21																																		
Std. Pkg.																																			
Carton 25	100																																		
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Trade No.	Price Each																																		
141321	\$0.13																																		
Std. Pkg.																																			
Carton 25	100																																		
<p>No. 22 ¾-inch Fixture Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141322</td><td>\$0.16</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>100</td></tr></table>		Trade No.	Price Each	141322	\$0.16	Std. Pkg.		Carton 25	100	<p>No. 23 ¾-inch Angle Fixture Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141323</td><td>\$0.18</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>50</td></tr></table>		Trade No.	Price Each	141323	\$0.18	Std. Pkg.		Carton 25	50	<p>No. 24 ¾-inch Angle Fixture Socket Cap</p>  <table><tr><td>Trade No.</td><td>Price Each</td></tr><tr><td>141324</td><td>\$0.21</td></tr><tr><td>Std. Pkg.</td><td></td></tr><tr><td>Carton 25</td><td>50</td></tr></table>	Trade No.	Price Each	141324	\$0.21	Std. Pkg.		Carton 25	50							
Trade No.	Price Each																																		
141322	\$0.16																																		
Std. Pkg.																																			
Carton 25	100																																		
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Std. Pkg.																																			
Carton 25	50																																		
Trade No.	Price Each																																		
141324	\$0.21																																		
Std. Pkg.																																			
Carton 25	50																																		



# HUBBELL SOCKETS AND PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

Sockets—Schedule B; Switches—Schedule F

## QUICK CATCH INTERCHANGEABLE BODIES

The Bodies Listed Below will fit Caps and Bases Listed on the Two Following Pages

<p><b>No. 61</b> Key Socket Body 250 Watts, 250 Volts</p>  <p>Trade No. 141292 Price Each \$0.26 Std. Pkg. 500 Carton 25</p>	<p><b>No. 75</b> Key Socket Body 660 Watts, 250 Volts</p>  <p>Trade No. 141300 Price Each \$0.29 Std. Pkg. 500 Carton 25</p>	<p><b>No. 62</b> Keyless Socket Body 660 Watts, 250 Volts</p>  <p>Trade No. 141293 Price Each \$0.23 Std. Pkg. 500 Carton 25</p>
<p><b>Nos. 60 AND 79</b> Pull Socket Body 250 Watts, 250 Volts</p>  <p>Trade No. 141294* Price Each \$0.53 141295† Std. Pkg. 61 Carton 25 Std. Pkg. 250 25 Std. Pkg. 250</p> <p>*No. 60, 8-inch chain. †No. 79, 18-inch chain</p>	<p><b>Nos. 178 AND 180</b> Pull Socket Body 660 Watts, 250 Volts</p>  <p>Trade No. 141301* Price Each \$0.59 141302† Std. Pkg. .67 Carton 25 Std. Pkg. 250 25 Std. Pkg. 250</p> <p>*No. 178, 8-inch chain †No. 180, 18-inch chain.</p>	<p><b>No. 63</b> Pendent Pull Switch Body</p>  <p>Trade No. 141296 Price Each \$0.53 Std. Pkg. 100 Carton 10</p>
<p><b>No. 64</b> Fixture Pull Switch Body</p>  <p>Trade No. 141297 Price Each \$0.68 Std. Pkg. 50 Carton 10</p>	<p><b>No. 65</b> Rosette Pull Switch Body</p>  <p>Trade No. 141298 Price Each \$0.53 Std. Pkg. 50 Carton 10</p>	<p><b>No. 66</b> Wall Pull Switch Body</p>  <p>Trade No. 141299 Price Each \$0.53 Std. Pkg. 50 Carton 10</p>



















## HUBBELL SOCKETS AND PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SOCKETS—SCHEDULE B; SWITCHES—SCHEDULE F

QUICK CATCH INTERCHANGEABLE BASES

The Bases Listed Below will fit Bodies Listed on the Second Preceding Page



<p><b>No. 25</b> Small Concealed Socket Base</p>  <p>Trade No. 141335      Price Each \$0.18 Std. Pkg. 250 Carton 10</p>	<p><b>No. 26</b> Small Covered Con- cealed Socket Base</p>  <p>Trade No. 141336      Price Each \$0.28 Std. Pkg. 250 Carton 10</p>	<p><b>No. 27</b> Surface Wiring Socket Base</p>  <p>Trade No. 141337      Price Each \$0.23 Std. Pkg. 250 Carton 10</p>	<p><b>No. 28</b> Wood Molding Socket Base</p>  <p>Trade No. 141338      Price Each \$0.18 Std. Pkg. 100 Carton 10</p>
<p><b>No. 29</b> ½ Inch Condulet Socket Base</p>  <p>Trade No. 141339      Price Each \$0.23 Std. Pkg. 100 Carton 10</p>	<p><b>No. 30</b> Angle Concealed Socket Base</p>  <p>Trade No. 141340      Price Each \$0.23 Std. Pkg. 100 Carton 10</p>	<p><b>No. 31</b> One-way National Socket Base</p>  <p>Trade No. 141341      Price Each \$0.18 Std. Pkg. 100 Carton 10</p>	<p><b>No. 32</b> Two-way National Socket Base</p>  <p>Trade No. 141342      Price Each \$0.18 Std. Pkg. 100 Carton 10</p>
<p><b>No. 33</b> Concealed Rosette Socket Base</p>  <p>Trade No. 141343      Price Each \$0.49 Std. Pkg. 50 Carton 10</p>	<p><b>No. 34</b> Cleat Rosette Socket Base</p>  <p>Trade No. 141344      Price Each \$0.49 Std. Pkg. 50 Carton 10</p>	<p><b>No. 35</b> Two-wire Molding Socket Base</p>  <p>Trade No. 141345      Price Each \$0.49 Std. Pkg. 50 Carton 10</p>	<p><b>No. 36</b> Three-wire Molding Socket Base</p>  <p>Trade No. 141346      Price Each \$0.49 Std. Pkg. 50 Carton 10</p>
<p><b>No. 37</b> Small Covered Ceiling Socket Base</p>  <p>Trade No. 141347      Price Each \$0.37 Std. Pkg. 100 Carton 10</p>	<p><b>No. 38</b> Insulated Ceiling Socket Base for 3¼-inch Outlet Box</p>  <p>Trade No. 141348      Price Each \$0.37 Std. Pkg. 100 Carton 10</p>	<p><b>No. 39</b> Large Covered Ceiling Socket Base</p>  <p>Trade No. 141349      Price Each \$0.67 Std. Pkg. 100 Carton 5</p>	<p><b>No. 40</b> Insulated Ceiling Socket Base for 4-inch Outlet Box</p>  <p>Trade No. 141350      Price Each \$0.67 Std. Pkg. 100 Carton 5</p>



# UBBELL QUICK-CATCH SOCKETS AND PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SOCKETS—SCHEDULE B; SWITCHES—SCHEDULE F

National Electrical Code Standard Pull and Key Sockets 1/2-inch, 3/4-inch and 1-inch Pull Switches 1/2-inch, 3/4-inch and 1-inch								
	1/4-inch 7c-B-500 Carton 25	1/2-inch 16c-B-250 Carton 25	3/4-inch 13c-B-250 Carton 25	Pendant 7c-B-500 Carton 25	1/4-inch Male 7c-B-100 Carton 25	1/2-inch Male 16c-B-50 Carton 25	3/4-inch Male 16c-B-250 Carton 25	1/2-inch Angle 12c-B-100 Carton 25
No. 60 Pull Socket	No. 3618	No. 3769	No. 3619	No. 3620	No. 3775	No. 3776	No. 3777	No. 3757
								
53c-B-250 Carton 25	60c-B-250 Carton 25	69c-B-100 Carton 25	66c-B-250 Carton 25	60c-B-250 Carton 25	60c-B-250 Carton 25	69c-B-100 Carton 25	69c-B-100 Carton 25	65c-B-50 Carton 25
No. 61 Key Socket	No. 3664	No. 3770	No. 3665	No. 3666	No. 3682	No. 3778	No. 3780	No. 3758
								
26c-B-500 Carton 25	33c-B-500 Carton 25	42c-B-250 Carton 25	39c-B-250 Carton 25	33c-B-500 Carton 25	33c-B-500 Carton 25	42c-B-250 Carton 25	42c-B-250 Carton 25	38c-B-100 Carton 25
No. 62 Keyless Socket	No. 3667	No. 3771	No. 3668	No. 3669	No. 3781	No. 3779	No. 3683	No. 3759
								
26c-B-500 Carton 25	30c-B-500 Carton 25	39c-B-250 Carton 25	36c-B-250 Carton 25	30c-B-500 Carton 25	30c-B-500 Carton 25	39c-B-250 Carton 25	39c-B-250 Carton 25	35c-B-100 Carton 25
No. 63 Pulling Switch	No. 5702	No. 5724	No. 5703	No. 5704	No. 5891	No. 5892	No. 5893	No. 6340
								
53c-F-100 Carton 10	60c-F-100 Carton 10	69c-F-20 Carton 10	66c-F-20 Carton 10	60c-F-20 Carton 10	60c-F-20 Carton 10	69c-F-20 Carton 10	69c-F-20 Carton 10	65c-F-20 Carton 10
No. 64 Fixture Switch	No. 6300	No. 6301	No. 6302	No. 6427	No. 6303	No. 6304	No. 6305	No. 6403
								
68c-F-50 Carton 10	75c-F-50 Carton 10	84c-F-20 Carton 10	81c-F-20 Carton 10	75c-F-20 Carton 10	75c-F-20 Carton 10	84c-F-20 Carton 10	84c-F-20 Carton 10	80c-F-20 Carton 10
No. 65 Toilette Switch	No. 6361	No. 6362	No. 6363	No. 6364	No. 6365	No. 6366	No. 6367	No. 6368
								
53c-F-50 Carton 10	60c-F-20 Carton 10	69c-F-20 Carton 10	66c-F-20 Carton 10	60c-F-20 Carton 10	60c-F-20 Carton 10	69c-F-20 Carton 10	69c-F-20 Carton 10	65c-F-20 Carton 10
No. 66 Wall Switch	No. 6376	No. 6377	No. 6378	No. 6379	No. 6380	No. 6381	No. 6382	No. 6383
								
53c-F-50 Carton 10	60c-F-50 Carton 10	69c-F-20 Carton 10	66c-F-20 Carton 10	60c-F-20 Carton 10	60c-F-20 Carton 10	69c-F-20 Carton 10	69c-F-20 Carton 10	65c-F-20 Carton 10

Patented March 21, 1916.

Standard finish is brush brass. Brush brass shipped, unless otherwise specified.

Sockets furnished with chains over 8 inches in length, except ceiling and rosette, add to list, per foot, 10 cents.

All pull switches are equipped with short chain, 6 feet linen cord and No. 5919 adjustable acorn. Extra cord, 1 cent per foot, list.



## HUBBELL QUICK-CATCH SOCKETS AND PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SOCKETS—SCHEDULE B; SWITCHES—SCHEDULE F

National Electrical Code Standard								
								
	1/4-inch Angle 21c-B-100 Carton 25	1/2-inch Angle 18c-B-100 Carton 25	1/2-inch Fixture 13c-B-100 Carton 25	1/2-inch Fixture 16c-B-100 Carton 25	1/2-inch Angle Fixture 18c-B-50 Carton 25	1/2-inch Angle Fixture 21c-B-50 Carton 25	Small Concealed Base 18c-B-250 Carton 10	Small Concealed Fixture 25c-B-250 Carton 10
No. 60 Pull Socket 	No. 3760 	No. 3763 	No. 3345 	No. 3346 	No. 3351 	No. 3352 	No. 3731 	No. 3734 
	53c-B-250 Carton 25	74c-B-50 Carton 25	71c-B-50 Carton 25	66c-B-100 Carton 25	69c-B-100 Carton 25	71c-B-50 Carton 25	74c-B-50 Carton 25	71c-B-100 Carton 10
No. 61 Key Socket 	No. 3761 	No. 3764 	No. 3347 	No. 3348 	No. 3353 	No. 3354 	No. 3732 	No. 3735 
	26c-B-500 Carton 25	47c-B-100 Carton 25	44c-B-100 Carton 25	39c-B-250 Carton 25	42c-B-250 Carton 25	44c-B-100 Carton 25	47c-B-100 Carton 25	44c-B-250 Carton 10
No. 62 Keyless Socket 	No. 3762 	No. 3765 	No. 3349 	No. 3350 	No. 3355 	No. 3356 	No. 3733 	No. 3736 
	23c-B-500 Carton 25	44c-B-100 Carton 25	41c-B-100 Carton 25	36c-B-250 Carton 25	39c-B-250 Carton 25	41c-B-100 Carton 25	44c-B-100 Carton 25	41c-B-250 Carton 10
No. 63 Ceiling Switch 	No. 6341 	No. 6342 	No. 6343 	No. 6344 	No. 6345 	No. 6346 	No. 5795 	No. 5796 
	53c-F-100 Carton 10	74c-F-20 Carton 10	71c-F-20 Carton 10	66c-F-20 Carton 10	69c-F-20 Carton 10	71c-F-20 Carton 10	74c-F-20 Carton 10	71c-F-20 Carton 10
No. 64 Fixture Switch 	No. 6404 	No. 6405 	No. 6413 	No. 6414 	No. 6415 	No. 6416 	No. 6417 	No. 6418 
	68c-F-50 Carton 10	89c-F-20 Carton 10	86c-F-20 Carton 10	81c-F-20 Carton 10	84c-F-20 Carton 10	85c-F-20 Carton 10	89c-F-20 Carton 10	86c-F-20 Carton 10
No. 65 Rosette Switch 	No. 6369 	No. 6370 	No. 6371 	No. 6372 	No. 6373 	No. 6374 	No. 5900 	No. 5901 
	53c-F-50 Carton 10	74c-F-20 Carton 10	71c-F-20 Carton 10	66c-F-20 Carton 10	69c-F-20 Carton 10	71c-F-20 Carton 10	74c-F-20 Carton 10	71c-F-20 Carton 10
No. 66 Wall Switch 	No. 6384 	No. 6385 	No. 6386 	No. 6387 	No. 6388 	No. 6389 	No. 6096 	No. 6097 
	53c-F-50 Carton 10	74c-F-20 Carton 10	71c-F-20 Carton 10	66c-F-20 Carton 10	69c-F-20 Carton 10	71c-F-20 Carton 10	74c-F-20 Carton 10	71c-F-20 Carton 10

Charts patented March 21, 1916.

Standard finish is brush brass. Brush brass shipped unless otherwise specified.

Sockets furnished with chains over 8 inches in length, except ceiling and rosette, add to list, per foot, 10 cents. Ceiling and rosette sockets with chains over 18 inches in length, add to list, per foot, 10 cents.



All pull switches are equipped with short chain, 6 feet linen cord and No. 5919 adjustable acorn. Extra cord, 1 cent per foot, list.

The steps on the fixture caps and fixture sockets listed above are designed to accommodate 5/8, 3/4 and 7/8-inch fixture stems.



# UBBELL QUICK-CATCH SOCKETS AND PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SOCKETS—SCHEDULE B; SWITCHES—SCHEDULE F

Maximal Standard of all Sockets from 250 Volts Sockets from 250 Volts Pull Switches from 250 Volts from 250 Volts	 Surface Wiring Base 23c-B-250 Carton 10	 Wood Mounting Base 18c-B-100 Carton 10	 Conduit Base 23c-B-100 Carton 10	 Angle Concealed Base 23c-B-100 Carton 10	 One-Way National Base 18c-B-100 Carton 10	 Two-Way National Base 18c-B-100 Carton 10	 Concealed Rosette Base* 49c-B-50 Carton 10	 Ceiling Rosette Base* 49c-B-50 Carton 10
No. 60 Socket	No. 3885  76c-B-100 Carton 10	No. 3888  71c-B-100 Carton 10	No. 3891  76c-B-100 Carton 10	No. 3746  76c-B-50 Carton 10	No. 3855  71c-B-100 Carton 10	No. 3858  71c-B-100 Carton 10	No. 3737*  1\$1.10-B-20 Carton 10	No. 3740*  1\$1.10-B-20 Carton 10
No. 61 Socket	No. 3886  49c-B-250 Carton 10	No. 3889  44c-B-250 Carton 10	No. 3892  49c-B-250 Carton 10	No. 3747  49c-B-100 Carton 10	No. 3856  44c-B-250 Carton 10	No. 3859  44c-B-250 Carton 10	No. 3738*  75c-B-100 Carton 10	No. 3741*  75c-B-100 Carton 10
No. 62 Socket	No. 3887  46c-B-250 Carton 10	No. 3890  41c-B-250 Carton 10	No. 3893  46c-B-250 Carton 10	No. 3748  46c-B-100 Carton 10	No. 3857  41c-B-250 Carton 10	No. 3860  41c-B-250 Carton 10	No. 3739*  72c-B-50 Carton 10	No. 3742*  72c-B-50 Carton 10
No. 63 Ring Switch	No. 6347  76c-F-20 Carton 10	No. 6348  71c-F-20 Carton 10	No. 6349  76c-F-20 Carton 10	No. 6350  76c-F-20 Carton 10	No. 6351  71c-F-20 Carton 10	No. 6352  71c-F-20 Carton 10	No. 6353*  1\$1.02-F-10 Carton 10	No. 6354*  1\$1.02-F-10 Carton 10
No. 64 Store Switch	No. 6419  91c-F-20 Carton 10	No. 6420  86c-F-20 Carton 10	No. 6421  91c-F-20 Carton 10	No. 6422  91c-F-20 Carton 10	No. 6423  86c-F-20 Carton 10	No. 6424  86c-F-20 Carton 10	No. 6428  1\$1.17-F-10 Carton 10	No. 6429  1\$1.17-F-10 Carton 10
No. 65 Rosette Switch	No. 6029  76c-F-20 Carton 10	No. 6030  71c-F-20 Carton 10	No. 6031  76c-F-20 Carton 10	No. 6375  76c-F-20 Carton 10	No. 5942  71c-F-20 Carton 10	No. 5943  71c-F-20 Carton 10	No. 5902*  1\$1.02-F-20 Carton 10	No. 5903*  1\$1.02-F-20 Carton 10
No. 66 Wall Switch	No. 6390  76c-F-20 Carton 10	No. 6391  71c-F-20 Carton 10	No. 6392  76c-F-20 Carton 10	No. 6393  76c-F-20 Carton 10	No. 6394  71c-F-20 Carton 10	No. 6395  71c-F-20 Carton 10	No. 6396*  1\$1.02-F-10 Carton 10	No. 6397*  1\$1.02-F-10 Carton 10

Charts patented March 21, 1916.

Standard finish is brush brass. Brush brass shipped unless otherwise specified.

Sockets furnished with chains over 8 inches in length, except ceiling and rosette, add to list, per foot, 10 cents.

Ring and rosette sockets with chains over 18 inches in length, add to list, per foot, 10 cents.











































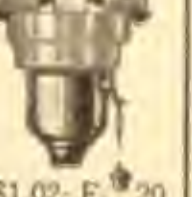






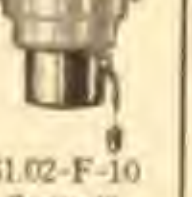





All pull switches are equipped with short chain, 6 feet linen cord and No. 5919 adjustable acorn. Extra cord, add per foot, list.

\*Approved incandescent type—2 amperes, 125 volts.  
†Price of ceiling and rosette base receptacles, assembled, includes 18-inch chain and acorn for ceiling work. If  
ordered with 8-inch chain the prices are: Nos. 3737, 3740, 3743 and 3547, \$1.02 each; Nos. 3749, 3750, 90 cents  
each; Nos. 3877, 3880, \$1.20 each. When separate parts are shipped, No. 79 pull socket bodies with 18-inch chains  
to be furnished unless otherwise specified.



## HUBBELL QUICK-CATCH SOCKETS AND PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SOCKETS—SCHEDULE B; SWITCHES—SCHEDULE F

National Electrical Code Standard Pull and Key Sockets 25 Watts, 250 Volts Keyless Sockets— 60 Watts, 250 Volts All Pull Switches 1 Ampere, 125 Volts 1 Ampere, 250 Volts						
	 Two Wire Moulding Base* 49c-B-50 Carton 10	 Three Wire Moulding Base* 49c-B-50 Carton 10	 Small Covered Ceiling Base 37c-B-100 Carton 10	 Insulated Ceiling Base 2 1/2" Outlet Box 37c-B-100 Carton 10	 Large Covered Ceiling Base 67c-B-100 Carton 5	 Insulated Ceiling Base 4" Outlet Box 67c-B-100 Carton 5
No. 60 Pull Socket  53c-B-250 Carton 25	No. 3743*  †\$1.10-B-20 Carton 10	No. 3547*  †\$1.10-B-20 Carton 10	No. 3749  †90c-B-50 Carton 2	No. 3750  †98c-B-50 Carton 2	No. 3877  †\$1.28-B-50 Carton 1	No. 3880  †\$1.28-B-50 Carton 1
No. 61 Key Socket  26c-B-500 Carton 25	No. 3744*  75c-B-100 Carton 10	No. 3548*  75c-B-100 Carton 10	No. 3751  63c-B-100 Carton 2	No. 3752  63c-B-100 Carton 2	No. 3878  93c-B-100 Carton 1	No. 3881  93c-B-100 Carton 1
No. 62 Keyless Socket  23c-B-500 Carton 25	No. 3745*  72c-B-50 Carton 10	No. 3549*  72c-B-50 Carton 10	No. 3753  60c-B-100 Carton 2	No. 3754  60c-B-100 Carton 2	No. 3879  90c-B-100 Carton 1	No. 3882  90c-B-100 Carton 1
No. 63 Ceiling Switch  53c-F-100 Carton 10	No. 6355*  \$1.02-F-10 Carton 10	No. 6356*  \$1.02-F-10 Carton 10	No. 6357  90c-F-20 Carton 2	No. 6358  90c-F-20 Carton 2	No. 6359  \$1.20-F-20 Carton 1	No. 6360  \$1.20-F-20 Carton 1
No. 64 Fixture Switch  68c-F-50 Carton 10	No. 6430  \$1.17-F-10 Carton 10	No. 6431  \$1.17-F-10 Carton 10	No. 6432  \$1.05-F-20 Carton 2	No. 6433  \$1.05-F-20 Carton 2	No. 6434  \$1.35-F-20 Carton 1	No. 6436  \$1.35-F-20 Carton 1
No. 65 Rosette Switch  53c-F-50 Carton 10	No. 5904*  \$1.02-F-20 Carton 10	No. 6026*  \$1.02-F-20 Carton 10	No. 5905  90c-F-20 Carton 2	No. 5906  90c-F-20 Carton 2	No. 5949  \$1.20-F-20 Carton 1	No. 5950  \$1.20-F-20 Carton 1
No. 66 Wall Switch  53c-F-50 Carton 10	No. 6398*  \$1.02-F-10 Carton 10	No. 6426*  \$1.02-F-10 Carton 10	No. 6399  90c-F-20 Carton 2	No. 6400  90c-F-20 Carton 2	No. 6401  \$1.20-F-20 Carton 1	No. 6402  \$1.20-F-20 Carton 1

Charts patented, March 21, 1916.

Standard finish is brush brass. Brush brass shipped unless otherwise specified.

Sockets furnished with chains over 8 inches in length, except ceiling and rosette, add to list, per foot, 10 cents.

Ceiling and rosette sockets with chains over 18 inches in length, add to list, per foot, 10 cents.

All pull switches are equipped with short chain, 6 feet linen cord and No. 5019 adjustable acorn. Extra cost 1 cent per foot, list.

\*Approved in cleat type—2 amperes, 125 volts.





















†Price of ceiling and rosette base receptacles, assembled, includes 18-inch chain and acorn for ceiling work. desired with 8-inch chain, the prices are: Nos. 3737, 3740, 3743 and 3547, \$1.02 each; Nos. 3749, 3750, 90 cents each. Nos. 3877, 3880, \$1.20 each. When separate parts are shipped, No. 79 pull socket bodies with 18-inch chains will be furnished, unless otherwise specified.



# HUBBELL ELECTROLIER SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

## SCHEDULE B—WITH QUICK CATCH SHELLS

<p>National Electrical Code Standard</p> <p>Pull Sockets 20 Watts, 250 Volts</p> <p>Key Sockets 20 Watts, 250 Volts</p> <p>Keyless Sockets 40 Watts, 250 Volts</p> <p>All Pull Switches 15 Amperes, 250 Volts 1 Ampere, 250 Volts</p>							
	1/2-inch 7c-B-500 Carton 25	1/2-inch 16c-B-100 Carton 25	1/2-inch 13c-B-250 Carton 25	Pendent 7c-B-500 Carton 25	1/2-inch Male 7c-B-50 Carton 25	1/2-inch Male 16c-B-50 Carton 25	1/2-inch Male 16c-B-50 Carton 25
No. 70 Pull Socket	No. 3821	No. 3823	No. 3826	No. 3210	No. 3851	No. 3211	No. 3212
							
53c-B-250 Carton 25	60c-B-250 Carton 25	69c-B-100 Carton 25	66c-B-100 Carton 25	60c-B-250 Carton 25	60c-B-250 Carton 25	69c-B-100 Carton 25	69c-B-100 Carton 25
No. 71 Key Socket	No. 3822	No. 3824	No. 3827	No. 3213	No. 3852	No. 3214	No. 3215
							
36c-B-500 Carton 25	33c-B-500 Carton 25	42c-B-250 Carton 25	39c-B-250 Carton 25	33c-B-500 Carton 25	33c-B-500 Carton 25	42c-B-250 Carton 25	42c-B-250 Carton 25
No. 72 Keyless	No. 3756	No. 3825	No. 3828	No. 3216	No. 3853	No. 3217	No. 3218
							
23c-B-500 Carton 25	30c-B-500 Carton 25	39c-B-250 Carton 25	36c-B-250 Carton 25	30c-B-500 Carton 25	30c-B-500 Carton 25	39c-B-250 Carton 25	39c-B-250 Carton 25
<p>National Electrical Code Standard</p> <p>Pull Sockets 20 Watts, 250 Volts</p> <p>Key Sockets 20 Watts, 250 Volts</p> <p>Keyless Sockets 40 Watts, 250 Volts</p> <p>All Pull Switches 15 Amperes, 250 Volts 1 Ampere, 250 Volts</p>							
	1/2-inch Angle 12c-B-100 Carton 25	1/2-inch Angle 21c-B-50 Carton 25	1/2-inch Angle 18c-B-50 Carton 25	1/2-inch Fixture 13c-B-50 Carton 25	1/2-inch Fixture 16c-B-50 Carton 25	1/2-inch Angle Fixture 18c-B-50 Carton 25	1/2-inch Angle Fixture 21c-B-50 Carton 25
No. 70 Pull Socket	No. 3842	No. 3845	No. 3848	No. 3357	No. 3358	No. 3363	No. 3364
							
53c-B-250 Carton 25	65c-B-50 Carton 25	74c-B-50 Carton 25	71c-B-50 Carton 25	66c-B-100 Carton 25	69c-B-100 Carton 25	71c-B-50 Carton 25	74c-B-50 Carton 25
No. 71 Key Socket	No. 3843	No. 3846	No. 3849	No. 3359	No. 3360	No. 3365	No. 3366
							
26c-B-500 Carton 25	38c-B-100 Carton 25	47c-B-100 Carton 25	44c-B-100 Carton 25	39c-B-250 Carton 25	42c-B-250 Carton 25	44c-B-100 Carton 25	47c-B-100 Carton 25
No. 72 Keyless	No. 3844	No. 3847	No. 3850	No. 3361	No. 3362	No. 3367	No. 3368
							
23c-B-500 Carton 25	35c-B-100 Carton 25	44c-B-100 Carton 25	41c-B-100 Carton 25	36c-B-250 Carton 25	39c-B-250 Carton 25	41c-B-100 Carton 25	44c-B-100 Carton 25

Charts patented March 21, 1916.

Standard finish is brush brass. Brush brass shipped unless otherwise specified.

Quick-catch devices supplied with thread heads only.

Pull sockets are equipped with 8-inch chain and detachable eyelet. Pull sockets may be chased with extension eyelets and insulated chain. For chains over 8 inches, add 10 cents foot.



## HUBBELL ELECTROLIER SOCKETS

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE B—WITH QUICK CATCH SHELLS



Key Socket Body, No. 71  
250 Watts, 250 Volts



Keyless Socket Body, No. 72  
660 Watts, 250 Volts



Short Shell  
Keyless Socket Body, No. 73  
660 Watts, 250 Volts



Pull Socket Body, No. 74  
250 Watts, 250 Volts



3/8-inch Cap  
No. 41

Trade  
No.

Mfrs.  
No.

With 1/8-inch Cap, No. 41

Style

Car-  
ton

Std.  
Pkg.

Wt., Lbs.  
Std. Pkg.

Price  
Each

52001  
52002  
52023  
52003  
52024

3822  
3756  
3899  
3821  
41

Key  
Keyless  
Keyless, short shell  
Pull  
Cap only

25  
25  
25  
25  
25

500  
500  
500  
250  
500

100  
75  
80  
50  
25

30.25  
29.00  
28.00  
10.00  
10.00



1/2-inch Cap  
No. 42

52004  
52005  
52025  
52006  
52026

3824  
3825  
3900  
3823  
42

With 1/4-inch Cap, No. 42  
Key  
Keyless  
Keyless, short shell  
Pull  
Cap only

25  
25  
25  
25  
25

250  
250  
250  
100  
100

50  
45  
40  
20  
6

12.00  
11.00  
10.00  
8.00  
1.00



3/8-inch Cap  
No. 43

52007  
52008  
52027  
52009  
52028

3827  
3828  
3901  
3826  
43

With 3/8-inch Cap, No. 43  
Key  
Keyless  
Keyless, short shell  
Pull  
Cap only

25  
25  
25  
25  
25

250  
250  
250  
100  
250

50  
45  
40  
20  
13

12.00  
11.00  
10.00  
8.00  
12.00



Pendent Cap  
No. 44

52029  
52030  
52031  
52032  
52033

3213  
3216  
3902  
3210  
44

With Pendent Cap, No. 44  
Key  
Keyless  
Keyless, short shell  
Pull  
Cap only

25  
25  
25  
25  
25

500  
500  
500  
250  
500

105  
100  
80  
50  
20

25.00  
24.00  
23.00  
18.00  
10.00



1/2-inch Male  
Cap  
No. 45

52019  
52020  
52034  
52021  
52035

3852  
3853  
3903  
3851  
45

With 1/2-inch Male Thread Cap, No. 45  
Key  
Keyless  
Keyless, short shell  
Pull  
Cap only

25  
25  
25  
25  
25

500  
500  
500  
250  
50

100  
75  
80  
50  
6

25.00  
24.00  
23.00  
18.00  
10.00



1/2-inch Male  
Cap  
No. 46

52036  
52037  
52038  
52039  
52040

3214  
3217  
3904  
3211  
46

With 1/4-inch Male Thread Cap, No. 46  
Key  
Keyless  
Keyless, short shell  
Pull  
Cap only

25  
25  
25  
25  
25

250  
250  
250  
100  
50

50  
50  
40  
20  
3

12.00  
11.00  
10.00  
8.00  
1.00



1/2-inch Male  
Cap  
No. 47

52041  
52042  
139289  
139290  
139291

3215  
3218  
3905  
3212  
47

With 3/8-inch Male Thread Cap, No. 47  
Key  
Keyless  
Keyless, short shell  
Pull  
Cap only

25  
25  
25  
25  
25

250  
250  
250  
100  
50

50  
50  
40  
20  
6

12.00  
11.00  
10.00  
8.00  
1.00

Standard finish is brush brass. Brush brass shipped unless otherwise specified.

Quick-catch devices supplied with threaded beads only.

Pull sockets are equipped with 8-inch chain and detachable eyelet. Pull sockets may be purchased with extension eyelets and insulated chain. chains over 8 inches, add 10 cents per foot.



# HUBBELL ELECTROLIER SOCKETS

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE B—WITH QUICK CATCH SHELLS



Socket Body, No. 71  
Watts, 250 Volts



Keyless Socket Body, No. 72  
660 Watts, 250 Volts



Short Shell Keyless  
Socket Body, No. 73  
660 Watts, 250 Volts



Pull Socket Body,  
No. 70  
250 Watts, 250 Volts



1/8-inch Angle  
Cap  
No. 48



1/4-inch Angle  
Cap  
No. 49



3/8-inch Angle  
Cap  
No. 50



1/2-inch Angle  
Cap  
No. 51



3/4-inch Angle  
Cap  
No. 52



1-inch Angle  
Cap  
No. 53



1 1/4-inch Angle  
Cap  
No. 54

## With 1/8-inch Angle Cap, No. 48

Trade No.	Mfrs. No.	Style	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
52010	3843	Key	25	100	20	\$0.38
52011	3844	Keyless	25	100	20	.35
139301	3906	Keyless, short shell	25	100	20	.35
52012	3842	Pull	25	50	10	.65
139302	48	Cap only	25	100	6	.12

## With 1/4-inch Angle Cap, No. 49

52013	3846	Key	25	100	20	.47
52014	3847	Keyless	25	100	20	.44
139303	3907	Keyless, short shell	25	100	20	.44
52015	3845	Pull	25	50	10	.74
139304	49	Cap only	25	50	3	.21

## With 3/8-inch Angle Cap, No. 50

52016	3849	Key	25	100	20	.44
52017	3850	Keyless	25	100	20	.41
139305	3908	Keyless, short shell	25	100	20	.41
52018	3848	Pull	25	50	10	.71
139306	50	Cap only	25	50	3	.18

## With 1/2-inch Angle Fixture, No. 51

139307	3359	Key	25	250	65	.39
139308	3361	Keyless	25	250	65	.36
139309	3909	Keyless, short shell	25	250	45	.36
139310	3357	Pull	25	100	30	.66
139311	51	Cap only	25	50	6	.13

## With 3/4-inch Fixture Cap, No. 52

139312	3360	Key	25	250	65	.42
139313	3362	Keyless	25	250	65	.39
139314	3910	Keyless, short shell	25	250	45	.39
139315	3358	Pull	25	100	30	.69
139316	52	Cap only	25	50	6	.16

## With 1/2-inch Angle Fixture Cap, No. 53

139317	3365	Key	25	100	30	.44
139318	3367	Keyless	25	100	30	.41
139319	3911	Keyless, short shell	25	100	20	.41
139320	3363	Pull	25	50	20	.71
139321	53	Cap only	25	50	3	.18

## With 1/4-inch Angle Fixture Cap, No. 54

139322	3366	Key	25	100	30	.47
139323	3368	Keyless	25	100	30	.44
139324	3912	Keyless, short shell	25	100	20	.44
139325	3364	Pull	25	50	30	.74
139326	54	Cap only	25	50	3	.21

The steps on fixture caps listed above are designed to accommodate 5/8, 3/4 and 1/2-inch fixture stems.

## SOCKET BODIES ONLY

139327	71	Key	25	500	85	.26
139328	72	Keyless	25	500	85	.23
139329	73	Keyless, short shell	25	500	60	.23
139330	70	Pull	25	250	35	.53

Standard finish is brush brass.

Brush brass shipped, unless otherwise specified.

Quick catch devices supplied with threaded beads only.

Pull sockets are equipped with 8-inch chain and detachable eyelet. Pull sockets may be purchased with extension eyelets and insulated chain. For chains over 8 inches, add 10 cents per foot.



## HUBBELL SOCKETS AND CURRENT TAPS

No. 5403  
Showing AdaptationNo. 3190  
With Medium Screw BaseNo. 3191  
With Standard 1/8-inch Socket Cap

Showing use of No. 3190 all orders, unless otherwise specified.

## INCANDESCENT ATTACHMENTS FOR OIL LAMPS

250 Watts, 250 Volts, Schedule F

A handsome device for attaching to an oil lamp to give it the practical advantage of an electric lamp. Base of the socket is easily and quickly fitted to any lamp with a common burner, either flat wick or central draft. When sold complete it is fitted with 7 feet of silk parallel lamp cord and Hubbell Plug No. 3905. Socket fitted with 12-inch chain.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
055093	5403	With plug and 7-feet silk cord . . .	1	20	15	\$2.00
055094	5529	Without cord or plug . . . . .	1	20	10	1.50

## PULL SOCKET CURRENT TAPS

## SCHEDULE B

Plug Outlet—660 Watts, 250 Volts

Socket Outlet—250 Watts, 250 Volts

No. 3190 screws into any standard socket or socket receptacle. All orders for twenty or more packed in special containers.

The plug outlet is provided with TT slots which will take all types of Hubbell standard plug caps with tandem, parallel or right angle (polarized) blades.

Pull socket current taps will accommodate standard shade holders.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
192572	3190	With medium screw base . . . . .	10	50	22	\$1.00
192573	3191	With 1/8-in. cap . . . . .	10	50	20	1.00
192574	3192	With 1/4-in. cap . . . . .	10	50	20	1.00
192575	3193	With 3/8-in. cap . . . . .	10	50	20	1.00
192576	3194	With pendent cap . . . . .	10	50	20	1.00

The standard finish is brush brass, and will be furnished on



## HUBBELL SOCKETS

### SCHEDULE B

#### PULL SOCKETS WITH INSULATED CHAINS

Hubbell Pull Sockets may be furnished with insulated chain. This arrangement is effected by inserting a piece of fiber rod in the chain. For sockets so equipped, add 15 cents to the list price. Standard package quantity is the same as for the standard socket with which the insulated chain is ordered. May be furnished on any style of pull socket.

#### EXTENSION EYELETS FOR PULL SOCKETS

For Standard and Electrolier Sockets

STANDARD		ELECTROLIER		Length Inches	Carton	Std. Pkg.	Wt. Oz.		Price Each
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.				Std.	Pkg.	
86699	3322	52354	3292	$\frac{3}{8}$	*	50	8	80	15
46866	3329	52355	3293	$\frac{1}{2}$	*	50	9		15
86700	3323	52356	3294	$\frac{3}{4}$	*	50	10		15
86701	3324	52357	3295	1	*	50	12		15
86702	3325	52358	3296	$1\frac{1}{4}$	*	50	14		15
86703	3326	52359	3297	$1\frac{1}{2}$	*	50	16		15
86704	3327	52360	3298	$1\frac{3}{4}$	*	50	18		15
86705	3328	52361	3299	2	*	50	20		15

\*Packed in bulk.

When sockets are furnished with extension eyelets, add 10 cents to the price of corresponding socket with regular eyelet.

Standard eyelet sold separately from socket, 5 cents each. Standard package, 500.

Unless otherwise specified, sockets with 1-inch extension eyelet will be furnished.

If assorted, 100 extension eyelets constitute a standard package.

Special finished eyelets not attached to socket, add 10 cents. Standard finish is brush brass.

Special finished sockets with extension eyelets take same advance as regular sockets, plus extra, as above, for the extension eyelet.

#### SOCKETS WITH EXTRA LONG KEYS

The key sockets listed in these pages, excepting electrolier sockets, are equipped with 1-inch keys, but can be fitted with longer keys on special order, which must specify distance desired between outside of shell and end of key. The following can be furnished: Length,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , 2 and  $2\frac{1}{2}$  inches, add to list price of standard socket, 5 cents. Standard package, 100 of one length. On orders for sockets with extra long keys, where the length is not given,  $1\frac{1}{2}$ -inch will be supplied.

#### PULL SOCKETS AND SWITCHES WITH LUMINOUS ACORNS

We are prepared to furnish any pull socket or pull switch, listed in these pages, complete with luminous acorn as illustrated, at an addition of 18 cents to the list price of the device so equipped.

#### PULL SOCKETS WITH LUMINOUS ACORNS

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
46867	58	Socket Body with 8-in. chain.	25	250	45	\$0.71
46868	3916	Socket with $\frac{1}{8}$ -in. cap.	25	250	65	.78
46869	3917	Socket with $\frac{3}{8}$ -in. cap.	25	100	30	.84
46870	3918	Socket with pendent cap.	25	250	65	.78
46871	6722	Separate luminous acorn, adjustable.	50	250	10 oz.	.18



Pull Socket with Insulated Chain



Pull Socket with Extension Eyelet



Socket with Extra Long Key



Pull Socket with Luminous Acorn

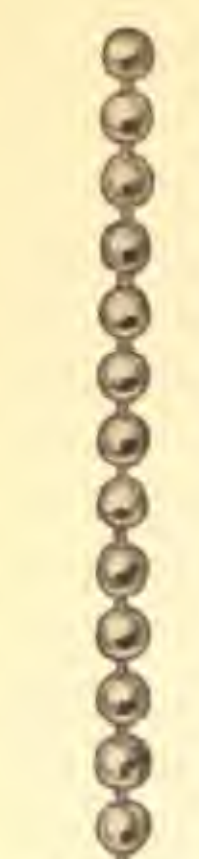


## HUBBELL SOCKETS

## SOCKET CHAIN, CORD AND ACORNS

## SCHEDULE F

## CHAIN WITH ACORNS ATTACHED. SCHEDULE B



No. 5382



No. 5383



No. 5928



No. 5919



No. 6722



No. 6089 No. 6088

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
86706	5382	Chain, in bulk, per foot	1000	\$0.00
86715	6563	Black linen cord, in bulk, per foot	1000	00
86716	3435	3 ft. of linen cord complete with short chain and No. 5919 acorn	*250	10
86717	3436	6 ft. of linen cord complete with short chain and No. 5919 acorn	*250	10
86718	3437	10 ft. of linen cord complete with short chain and No. 5919 acorn	*250	20
86697	3320	8-in. pull chain complete with No. 5383 acorn	*250	10
	6725	8-in. pull chain complete with No. 6722 acorn	*250	20
86698	3321	8-in. pull chain complete with fiber insulation and No. 5383 acorn	*250	20
86719	3438	12-in. pull chain complete with No. 5383 acorn	*250	10
86720	3439	12-in. pull chain complete with fiber insulation and No. 5383 acorn	*250	20
86721	3440	18-in. pull chain complete with No. 5383 acorn	*250	20
86722	3441	18-in. pull chain complete with fiber insulation and No. 5383 acorn	*250	20
86723	6561	6 ft. of cord only with No. 5919 acorn	*250	10
139175	6562	10 ft. of cord only with No. 5919 acorn	*250	10
86707	5383	Acorn, standard, for pull sockets	*250	00
86708	5928	Acorn, adjustable, for pull socket chain	*250	00
86709	†5919	Acorn, adjustable, for linen cord	*250	00
139176	6722	Acorn, adjustable, luminous	*250	10
86711	5535	Candelabra chain, per foot	*500	00
86712	5853	Candelabra acorn	*50	00

\*Packed in bulk.

†Furnished in black finish to match cord.

Full standard packages of 1000 feet No. 5382 chain will be shipped on reels. Quantities less than a standard package will be shipped in coils or hanks.

Pull sockets can be furnished with a short chain and three feet of linen cord, complete with acorn, without extra charge.

Separate chains cut to length with acorn attached, or chain sold as part of a device, is subject to Schedule B discounts and takes a price of 10 cents per foot.

Standard finish is brush brass. Brush brass furnished unless otherwise specified.

Cord, with or without acorn, Schedule F.

## INSULATING AND SPLICING LINKS

## SCHEDULE F

## FOR STANDARD OR CANDELABRA SOCKET CHAIN

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Or. Std. Pkg.	Price per 100
86713	6088	Insulating link, black finish	25	250	12	\$9.00
86714	6089	Splicing link, brush brass finish	100	200	6	3.00

Illustrations are actual size.



## HUBBELL SPECIAL FINISHES

A stock of special finishes including oxidized copper and nickel plate is carried but the finishes below can also be furnished.

To those doing their own finishing, sockets unfinished are listed at the same price as brush.

Sockets unassembled, the interiors, linings, etc., being packed separately can also be furnished. Sockets furnished in this manner carry the same price as assembled sockets.

Finish	Class	Finish	Class
ff, Bauer	B	Copper, Mottled	B
ss, Brush, (see foot note)		Copper, Oxidized	B
ss, Flemish	B	Copper, Polished	B
ss, Lemon	A	Enamel, White	G
ss, Oxidized	B	Gilt, Rich	A
ss, Polished	A	†Gold, (see foot note)	
ss, Polished, not Lacquered	A	Gun Metal	B
ss, Sand Blast Antique	E	Nickel, Dull	B
ss, Sand Blast Brush	D	Nickel, Polished	B
nze, Brush	B	Silver, Butler's (Brushed)	F
nze, Japanese (Dark)	C	Silver, Oxidized	F
nze, Polished	B	Silver, Polished	F
nze, Statuary (Light)	C	Silver, Satin	G
oper, Antique	C	Verde, Antique	F
oper, Brush	B		

### Complete Sockets and Pull Switches

Key and Keyless	Pull	Caps	Bases	Key and Keyless Bodies and all Shade Holders	Pull Bodies
\$0 06	\$0 07	\$0 03	\$0 12	\$0 03	\$0 04
10	12	05	16	05	07
16	20	08	25	08	12
18	22	09	28	09	13
22	26	11	30	11	15
20	30	10	25	10	20
28	32	14	30	14	18

### Socket and Pull Switch Parts

#### Metal Covered Attachment Plug Caps

6-amp. Caps	6-amp. and 20-amp. Large Polarized Caps
\$0 04	\$0 08
08	15
10	19
08	16
12	25
14	27
18	36

#### Brass Flush Plates for Receptacles and Switches

Nos. 5615-5616, 2 1/2-in. and 3 1/2-in. Round and No. 8231 Oval Plates	No. 5580 Rectangular Hinged Cover Plate per Gang	Nos. 5548, 6258, 8291 Rectangular Plates Standard per Gang
\$0 12	\$0 16	\$0 12
15	20	15
20	27	20
25	33	25
30	40	30
50	67	50
75	1.00	75

Standard finish is brush brass which will be furnished on all orders where no finish is specified.

All finishes not listed above, including gold, prices on application. Sample should be submitted with inquiry.

Standard and special finishes of one Mfrs. No. may be assorted to make up standard package.

When ordered in lots of 500 of one Mfrs. No. and one finish, these prices will be reduced 10 cent.

Sockets with shade holders attached, add to list price of the special finish on standard sockets corresponding advance shown under column headed, Key and Keyless Bodies and Shade holders.

Special finishes on extra chain, add to list per foot or fraction thereof, 5 cents.

Special finishes on separate acorns, add to list 4 cents.

For special finished chain eyelets sold separately from sockets, add to list 4 cents.

All prices listed for finishing apply to single plates.

For gang plates without lift cover, add 10 cents extra per gang for all finishes except gold.

For lift cover plates, add 20 cents per gang.



## HUBBELL INTERCHANGEABLE PORCELAIN SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

## SCHEDULE B

National Electrical Code Standard  Pull Sockets 250 Watts, 250 Volts  Key Sockets 250 Watts, 250 Volts  Keyless Sockets 250 Watts, 250 Volts	No. 150  Pendant 10c-B-250 Carton 10	No. 151  3/8-inch 20c-B-100 Carton 10	No. 152  1/4-inch 30c-B-100 Carton 10	No. 153  3/8-inch 24c-B-100 Carton 10	No. 154  3/8-inch Aluminum 40c-B-100 Carton 10	No. 155  1/2-inch Aluminum 42c-B-100 Carton 10	No. 156  Concealed Base 12c-B-100 Carton 10	No. 157  Chin 14c-B-100 Carton 10	
	No. 160 Pull Socket  75c-B-100 Carton 10	No. 3380  85c-B-100 Carton 10	No. 3330  95c-B-100 Carton 10	No. 3432  \$1.05-B-50 Carton 10	No. 3331  99c-B-100 Carton 10	No. 3387  \$1.15-B-50 Carton 10	No. 3336  \$1.17-B-50 Carton 10	No. 3420  87c-B-50 Carton 10	No. 3421  89c-B-50 Carton 10
	No. 161 Key Socket  26c-B-250 Carton 10	No. 3381  36c-B-250 Carton 10	No. 3332  46c-B-100 Carton 10	No. 3433  56c-B-100 Carton 10	No. 3333  50c-B-100 Carton 10	No. 3388  66c-B-100 Carton 10	No. 3337  68c-B-100 Carton 10	No. 3421  38c-B-100 Carton 10	No. 3422  40c-B-100 Carton 10
	No. 162 Keyless Socket  23c-B-250 Carton 10	No. 3382  33c-B-250 Carton 10	No. 3334  43c-B-100 Carton 10	No. 3434  53c-B-100 Carton 10	No. 3335  47c-B-100 Carton 10	No. 3389  63c-B-100 Carton 10	No. 3338  65c-B-100 Carton 10	No. 3422  35c-B-100 Carton 10	No. 3423  37c-B-100 Carton 10
National Electrical Code Standard  Pull Sockets 250 Watts, 250 Volts  Key Sockets 250 Watts, 250 Volts  Keyless Sockets 250 Watts, 250 Volts	No. 174  1/4-inch Angle Brass 45c-B-100 Carton 10	No. 175  3/8-inch Angle Brass 50c-B-100 Carton 10	No. 176  3/8-inch Angle Aluminum 65c-B-100 Carton 10	No. 177  1/2-inch Angle Aluminum 75c-B-100 Carton 10	No. 158  Small Ceiling Base 3 1/4" Outlet Box 30c-B-100 Carton 10	No. 159  Large Ceiling Base 4" Outlet Box 40c-B-100 Carton 10			
	No. 160 Pull Socket  75c-B-100 Carton 10	No. 3225  \$1.20-B-50 Carton 10	No. 3395  \$1.25-B-50 Carton 10	No. 3228  \$1.40-B-50 Carton 10	No. 3398  \$1.50-B-50 Carton 10	No. 3426  \$1.05-B-50 Carton 2	No. 3429  \$1.15-B-50 Carton 1		
	No. 161 Key Socket  26c-B-250 Carton 10	No. 3226  71c-B-100 Carton 10	No. 3396  76c-B-100 Carton 10	No. 3229  91c-B-100 Carton 10	No. 3399  \$1.01-B-100 Carton 10	No. 3427  56c-B-100 Carton 2	No. 3430  66c-B-100 Carton 1		
	No. 162 Keyless Socket  23c-B-250 Carton 10	No. 3227  68c-B-100 Carton 10	No. 3397  73c-B-100 Carton 10	No. 3230  88c-B-100 Carton 10	No. 3400  98c-B-100 Carton 10	No. 3428  53c-B-100 Carton 2	No. 3431  63c-B-100 Carton 1		

Charts Patented March 21, 1916

Brush brass is the standard finish for porcelain sockets with brass covered caps and will be supplied on all orders where no finish is specified.



# HUBBELL SOCKETS

## SCHEDULE B

### PORCELAIN WEATHERPROOF SOCKETS

660 Watts, 600 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
92283	9366	Weatherproof socket	10	250	85	\$0.22

### MOULDED MICA WEATHERPROOF SOCKETS

660 Watts, 600 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
92284	43310	Weatherproof socket	10	250	70	\$0.22

### COMPOSITION WEATHERPROOF SOCKETS

660 Watts, 600 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
92285	60666	Weatherproof socket	10	250	85	\$0.24

Each of the above sockets is furnished with 6 inches of No. 14 B. & S. stranded rubber covered wire. Longer wire supplied on large orders only. Extra charge, 4½ cents per foot list for each conductor.

### PORCELAIN RECEPTACLES FOR CONDUIT BOXES AND METAL SIGNS

660 Watts, 250 Volts

These receptacles are constructed with five notches in the base designed to prevent the receptacle turning, once it is installed. One projection in the metal plate bent down into any one of the notches will insure the permanent location of the receptacle in its original position.

The design of these receptacles makes possible the removal of the screw shell without disturbing the wiring.

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
92286	61988	With screw ring	10	250	85	\$0.20
92287	*4099	With covered terminals	10	250	100	25

A hole 1½ inches in diameter is required for these receptacles.

\*This receptacle is fitted with a separate porcelain base for use with outlet boxes.

Rubber gaskets are regularly supplied but leather gaskets may be had when so ordered without extra charge.

Porcelain rings only, list price 6 cents, standard package 250.

### PORCELAIN SIGN RECEPTACLES

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
92288	4063	10	250	75	\$0.17

This receptacle requires a hole 1¾ inches in diameter.

Holes for supporting screws are spaced 1¾ inches on centers.



No. 9366



No. 43310



No. 60666



No. 61988



No. 4099



No. 4063



## HUBBELL PORCELAIN SOCKETS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE B



No. 9402



No. 4013



No. 28795



No. 9171



No. 59275



No. 50715



No. 25706



No. 3375  
Mounted in Husk



No. 3287



No. 357

### PORCELAIN HUSK SOCKETS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
124886	3375	Keyless, $1\frac{1}{8}$ -in. brass cap.	10	100	45	\$0.50
124887	3377	Keyless, $3\frac{1}{8}$ -in. brass cap.	10	100	45	.60

Length of socket over all,  $2\frac{1}{2}$  inches; diameter,  $1\frac{1}{2}$  inches.  
Special wrench for inserting socket cap in husk, supplied without charge.

### SOCKETS WITH KNOSTRAIN BUSHING FOR ARMORED CORD

124893	3287	Key . . . . .	10	100	50	90
124894	3288	Keyless . . . . .	10	100	45	85
124895	3286	Pull . . . . .	10	50	35	10
124896	163	Cap only . . . . .	10	50	15	0

SOCKETS TAPPED FOR 1/2-INCH PIPE AND 3/4-INCH LOCKNUT

124904	3553	Key, $\frac{1}{2}$ -in. cast iron cap . . .	10	100	50	0
124905	3550	Keyless, $\frac{1}{2}$ -in. cast iron cap . .	10	100	45	0
124906	3552	Pull, $\frac{1}{2}$ -in. cast iron cap . . .	10	50	35	1 15
124907	183	$\frac{1}{2}$ -inch cast iron cap only . .	10	50	10	0

### PORCELAIN CLEAT RECEPTACLES

660 Watts, 250 Volts

124888 9402 Cleat receptacle, . . . . . 10 250 115  
Holes for supporting screws are spaced  $2\frac{3}{8}$  inches on centers.  
Outside dimensions of base,  $2\frac{5}{8} \times 2\frac{3}{4}$  inches.

Holes for supporting screws are spaced  $2\frac{3}{8}$  inches on centers. Outside dimensions of base,  $2\frac{5}{8} \times 2\frac{3}{4}$  inches.

124889	4013	Cleat receptacle for shade holder .....	10	250	110	21
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Holes for supporting screws are spaced  $2\frac{3}{8}$  inches on centers. Outside dimensions of base  $2\frac{5}{8} \times 2\frac{3}{8}$  inches.

Holes for supporting screws are spaced  $1\frac{1}{4}$  inches on centers.

Holes for supporting screws are spaced  $1\frac{7}{8}$  inches on centers. Outside diameter of base,  $2\frac{5}{16}$  inches.

124901	9171	Cleat receptacle.....	10	500	90	15
Supported by one screw in center.						

Supported by one screw in center.  
Outside diameter of base,  $1\frac{15}{16}$  inches.

124902	59275	Cleat receptacle, wires raised 1 inch from surface	10	250	105	3
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Holes for supporting screws are spaced 2 inches on centers. Outside dimensions of base,  $2\frac{1}{2} \times 2\frac{3}{4}$  inches.

124891	50715	Pony cleat reseptacle	10	250	85	15
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Holes for supporting screws are spaced  $1\frac{1}{8}$  inches on centers. Dimensions of base,  $2\frac{3}{8} \times 2\frac{3}{8}$  inches.

## STREETHOOD SOCKETS

124903	25706	With side lugs	10	100	75	37
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The malleable iron yoke is threaded for 3/8-inch iron pipe.



## HUBBELL MOGUL BASE SOCKETS

NATIONAL ELECTRICAL CODE STANDARD, 1500 WATTS, 600 VOLTS

### SCHEDULE B

#### BRASS SHELL SOCKETS

##### EQUIPPED WITH HIGH HEAT-RESISTING LINING

Trade No.	Mfrs. No.	Description	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
124846	3383	Keyless $\frac{3}{8}$ -inch cap	10	50	35	\$1.50
124847	3384	Keyless $\frac{1}{2}$ -inch cap	10	50	38	1.50

##### With $\frac{3}{4}$ -inch Shade Holder Permanently Attached

124848	3385	Keyless $\frac{3}{8}$ -inch cap	1	50	50	1.80
124849	3386	Keyless $\frac{1}{2}$ -inch cap	1	50	55	1.80

Shell and cap are fastened together by means of a screw thread and held in place by a steel set screw.



No. 3383

#### CEILING SOCKETS

##### With Porcelain Base

Trade No.	Mfrs. No.	Description	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
124856	3460	Keyless, for $3\frac{1}{4}$ and 4-in. outlet boxes	1	50	95	\$1.50
124857	3461	Keyless, for $3\frac{1}{4}$ and 4-in. outlet boxes, with $3\frac{1}{4}$ -in. shade holder attached	1	50	100	1.80

##### With Insulated Covered Base

124858	3462	Keyless, for $3\frac{1}{4}$ and 4-in. outlet boxes	1	50	100	1.75
124859	3463	Keyless, for $3\frac{1}{4}$ and 4-in. outlet boxes, with $3\frac{1}{4}$ -in. shade holder attached	1	50	105	2.05

Diameter of base,  $4\frac{5}{8}$  inches. Supporting screw holes spaced  $2\frac{3}{4}$  inches, and  $3\frac{1}{2}$  inches on centers.

For special finish on Mogul base sockets without shade holder, add to list price twice the addition made for special finishes on standard sockets.

For special finish on Mogul base sockets with shade holder, add to list price twice the regular addition for standard socket and the regular addition for the standard  $3\frac{1}{4}$ -inch shade holder.

Standard finish, brush brass.

The above Mogul base sockets are fitted with special, high heat-resisting linings capable of withstanding the intense heat generated by Type C gas-filled lamps. These linings are composed of asbestos fiber with a special binder, and in process of manufacture, are treated at a temperature of approximately 650 degrees F. and are practically non-combustible.

Laboratory tests show these linings chemically neutral; of good dielectric strength, and moisture-proof to about the same degree as ordinary fiber linings. They have been approved by the Underwriters for use in Mogul sockets and receptacles for Type C gas-filled incandescent lamps.



No. 3385



No. 3460



No. 3463



## HUBBELL MOGUL BASE SOCKETS

1500 WATTS, 600 VOLTS, SCHEDULE B



No. 33910



No. 3289



No. 3465

## PORCELAIN SOCKETS

## With Aluminum Caps

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
124850	3390	3/8-inch cap	2	50	75	\$1.00
124851	3391	1/2-inch cap	2	50	75	1.00
124852	3392	3/4-inch cap	2	50	75	1.00

## With Cast Iron Yoke

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
124853	3289	3/8-inch yoke	2	50	85	\$1.00
124854	3290	1/2-inch yoke	2	50	85	1.00
124855	3291	3/4-inch yoke	2	50	85	1.00

## Without Cap or Yoke

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
61226	3465		2	50	70	\$0.70

Supporting screw holes on No. 3465 are spaced 1 1/2 inches on centers.



No. 3468

## ONE-PIECE PORCELAIN SOCKETS

## With Aluminum Caps

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
61228	3468	3/8-inch cap	2	50	60	\$0.55
61229	3469	1/2-inch cap	2	50	60	.55

## With Cast Iron Yoke

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
61230	3471	3/8-inch yoke	2	50	60	\$0.70
61231	3472	1/2-inch yoke	2	50	60	.70
61232	3473	3/4-inch yoke	2	50	60	.70

## Without Cap or Yoke

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
61233	3474	.....	2	50	55	\$0.55



No. 3464

## PORCELAIN CLEAT RECEPTACLES

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
61227	3464	.....	2	50	50	\$0.75

Supporting screw holes are spaced 2 3/8 inches on centers.  
Screw holes in all mogul base sockets are sealed with heat-proof compound.



# HUBBELL CANDELABRA AND MINIATURE SOCKETS

## SCHEDULE F

### CANDELABRA AND MINIATURE PULL SOCKETS

75 Watts, 125 Volts

Two-screw Lock Shell Fastening

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
084309	5455	Candelabra base	10	50	10	\$0.84
13984	5836	Miniature base	10	50	10	.84
084311	5792	Bayonet base	10	50	10	.90

Quick Catch Shell Fastening

084312	5742	Candelabra base	10	50	10	.84
13985	5837	Miniature base	10	50	10	.84

Pull sockets furnished with chain over 4 inches in length, add to list, per foot, 10 cents.

For candelabra and miniature pull sockets equipped with extension eyelets, add to list 10 cents.  $\frac{1}{2}$ -inch extension eyelets are standard. Separate extension eyelets, 15 cents each.



### CANDELABRA AND MINIATURE KEYLESS SOCKETS

75 Watts, 125 Volts

Screw Thread Shell Fastening

084314	5753	Candelabra base	25	200	20	.32
13986	5838	Miniature base	25	200	20	.32

Two-point Snap Shell Fastening

084315	5793	Bayonet base	10	50	10	.35
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### CANDELABRA RECEPTACLES FOR CANDLE FIXTURES

084316	5686	$\frac{5}{8}$ -inch male thread bushing	25	200	12	.21
13988	5812	$\frac{5}{8}$ -inch male thread bushing with extra long porcelain skirt	25	200	12	.21
084317	5808	$\frac{5}{8}$ -inch female thread bushing	25	200	12	.21
13987	5819	$\frac{1}{8}$ -in. pipe tap female thread bushing	25	200	12	.21
13990	6169	$\frac{1}{8}$ -in. pipe tap male thread bushing	25	200	12	.21

### CANDELABRA PULL SWITCHES

$\frac{1}{2}$  Ampere, 125 Volts

Quick Catch Shell Fastening

13991	6015	With $\frac{1}{8}$ -in. bushing at top and bottom	10	50	10	.84
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Switches furnished with chain over 4 inches in length, add to list, per foot, 10 cents.

### EXTENSIONS, COLLAR AND CANDLE

084318	5481	Extension, candelabra base	50	50	1	.45
13989	5879	Extension, miniature base	50	50	1	.45
13992	6145	Extension, med. screw base	25	50	5	.85
084319	5482	Collar for candelabra socket	50	50	1	.05
084320	5483	Candle, 4 in. long, for candelabra socket	25	50	2	.35

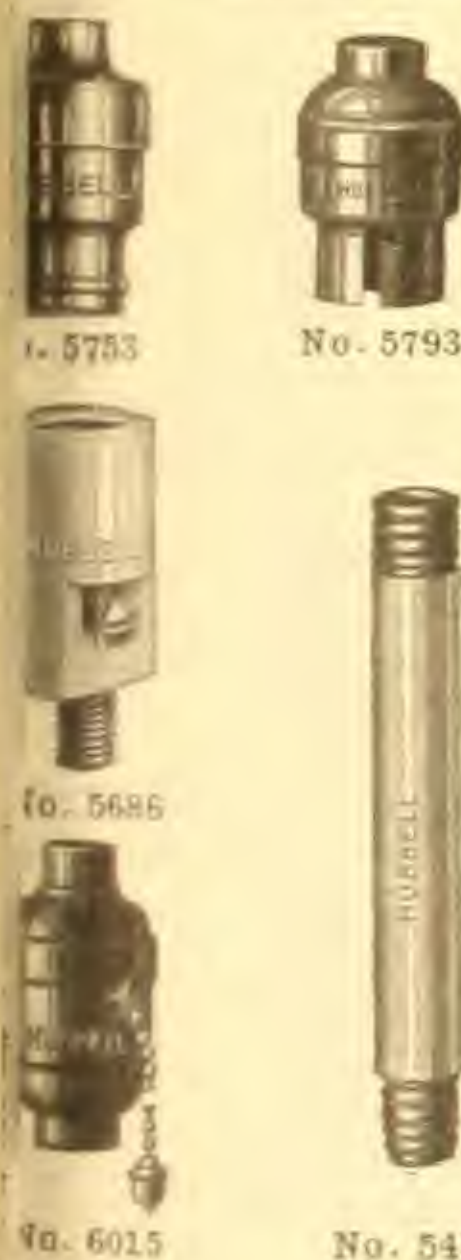
Nos. 5481 and 5879 extensions measure  $4\frac{3}{8}$  inches over all. Extensions over  $4\frac{3}{8}$  inches, add to list 10 cents per inch.

Extensions less than  $4\frac{3}{8}$  inches in length and candles less than 4 inches take the same price as standard.

Extensions, although  $4\frac{3}{8}$  inches in length, are designed to take a 4-inch candle.

For special finished collar, add to list 4 cents. Brush brass furnished unless otherwise specified.

Standard finishes on brass sockets, brush brass. Brush brass shipped when no finish is specified. Special finishes extra.





















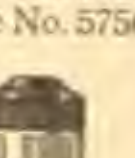
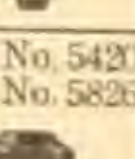
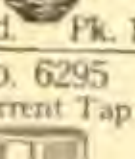
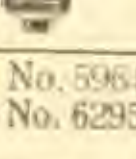
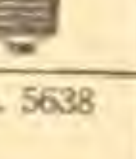
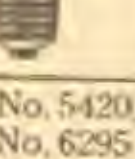
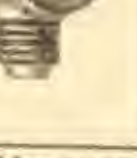

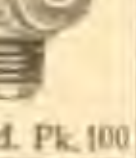



## HUBBELL ATTACHMENT PLUGS

## ATTACHMENT PLUGS AND CURRENT TAPS—SCHEDULE H

## NATIONAL ELECTRICAL CODE STANDARD 660 WATTS, 250 VOLTS

Listing of combinations of different caps with bases illustrated below are continued on the following page.

National Electrical Code Standard All Screw Base Plugs 660 Watts, 250 Volts All other Plugs, Connectors and Receptacles 6 Amperes, 250 Volts	No. 5964 Composition Cap	No. 5965 Brass Covered Composition	No. 6060 Composition "Knobtrain"	No. 6061 Br. Cov. Compos. "Knobtrain"	No. 5419 Porcelain Cap	No. 5420 Composition Cap	No. 5421 Brass Covered Porcelain Cap
							
15c-Std. Pk. 250	25c-Std. Pk. 250	25c-Std. Pk. 250	25c-Std. Pk. 50	55c-Std. Pk. 50	15c-Std. Pk. 100	20c-Std. Pk. 100	25c-Std. Pk. 100
No. 5917 Porcelain Base 	No. 5915 	No. 5916 	Cap No. 6060 Base No. 5917 	Cap No. 6061 Base No. 5917 	☆	☆	☆
15c-Std. Pk. 250	25c-Std. Pk. 250	35c-Std. Pk. 250					
No. 5607 Porcelain Base 	Cap No. 5964 Base No. 5607 	Cap No. 5965 Base No. 5607 	Cap No. 6060 Base No. 5607 	Cap No. 6061 Base No. 5607 	No. 5406 	No. 5408 	Cap No. 5421 Base No. 5607 
20c-Std. Pk. 250					30c-Std. Pk. 250	35c-Std. Pk. 250	
No. 5612 Composition Base 	Cap No. 5964 Base No. 5612 	Cap No. 5965 Base No. 5612 	Cap No. 6060 Base No. 5612 	Cap No. 6061 Base No. 5612 	Cap No. 5419 Base No. 5612 	No. 5467 	Cap No. 5421 Base No. 5612 
25c-Std. Pk. 250						40c-Std. Pk. 250	
No. 5756 Porcelain Base Cartridge Fuse 	Cap No. 5964 Base No. 5756 	Cap No. 5965 Base No. 5756 	Cap No. 6060 Base No. 5756 	Cap No. 6061 Base No. 5756 	No. 5729 	Cap No. 5420 Base No. 5756 	Cap No. 5421 Base No. 5756 
60c-Std. Pk. 100					75c-Std. Pk. 100		
No. 5826 Composition Base Cartridge Fuse 	Cap No. 5964 Base No. 5826 	Cap No. 5965 Base No. 5826 	Cap No. 6060 Base No. 5826 	Cap No. 6061 Base No. 5826 	Cap No. 5419 Base No. 5826 	Cap No. 5420 Base No. 5826 	Cap No. 5421 Base No. 5826 
75c-Std. Pk. 100							
No. 6295 Current Tap Multiple 	Cap No. 5964 Base No. 6295 	Cap No. 5965 Base No. 6295 	Cap No. 6060 Base No. 6295 	Cap No. 6061 Base No. 6295 	No. 5638 	Cap No. 5420 Base No. 6295 	Cap No. 5421 Base No. 6295 
50c-Std. Pk. 100					65c-Std. Pk. 100		
No. 6298 Current Tap Series 	Cap No. 5964 Base No. 6298 	Cap No. 5965 Base No. 6298 	Cap No. 6060 Base No. 6298 	Cap No. 6061 Base No. 6298 	No. 5736 	Cap No. 5420 Base No. 6298 	Cap No. 5421 Base No. 6298 
50c-Std. Pk. 50					65c-Std. Pk. 50		

Standard finish for caps is brush brass. For special finished brass-covered caps, see a following page. Brush brass shipped over all, 1 1/4 inches diameter, 1/2 inch. When furnished without the fuse, deduct 25 cents from list price. When two catalogue numbers appear with illustration, the base and cap are packed and sold as separate units, the price of the whole being the aggregate of the units. Where only one catalogue number appears, the device is packed complete. \*Not a practical combination.

Charts Patented, March 21, 1910.



# HUBBELL ATTACHMENT PLUGS

## ATTACHMENT PLUGS AND CURRENT TAPS—SCHEDULE H NATIONAL ELECTRICAL CODE STANDARD, 660 WATTS, 250 VOLTS

Bases only for combinations listed below are illustrated on the previous page.

No. 5523 Covered position	No. 6336 Elongated Composition	No. 5657 Br. Cov. Compo. "Knobstrin"	No. 5700 Br. Cov. Compo. "Knobstrin"	No. 6328 Compo. Swivel "Knobstrin" Bushing	No. 5625 Porc. Mult. Current Tap	No. 6335 Compo. Mult. Current Tap	No. 5424 Porcelain Lamp Receptacle	No. 5897 Composition Lamp Receptacle
								
Std. Pk. 100	35c-Std. Pk. 100	45c-Std. Pk. 50	55c-Std. Pk. 50	35c-Std. Pk. 50	35c-Std. Pk. 50	45c-Std. Pk. 50	25c-Std. Pk. 100	35c-Std. Pk. 100
☆	☆	☆	☆	☆	☆	☆	☆	☆
No. 5523 Base No. 5607	Cap. No. 6336 Base No. 5607	Cap. No. 5657 Base No. 5607	Cap. No. 5700 Base No. 5607	Cap. No. 6328 Base No. 5607	Tap No. 5625 Base No. 5607	Tap No. 6335 Base No. 5607	☆	☆
								
No. 5523 Base No. 5612	Cap. No. 6336 Base No. 5612	Cap. No. 5657 Base No. 5612	Cap. No. 5700 Base No. 5612	Cap. No. 6328 Base No. 5612	Tap No. 5625 Base No. 5612	Tap No. 6335 Base No. 5612	☆	☆
								
No. 5523 Base No. 5756	Cap. No. 6336 Base No. 5756	Cap. No. 5657 Base No. 5756	Cap. No. 5700 Base No. 5756	Cap. No. 6328 Base No. 5756	Tap No. 5625 Base No. 5756	Tap No. 6335 Base No. 5756	Rec. No. 5424 Base No. 5756	Rec. No. 5897 Base No. 5756
								
No. 5523 Base No. 5826	Cap. No. 6336 Base No. 5826	Cap. No. 5657 Base No. 5826	Cap. No. 5700 Base No. 5826	Cap. No. 6328 Base No. 5826	Tap No. 5625 Base No. 5826	Tap No. 6335 Base No. 5826	Rec. No. 5424 Base No. 5826	Rec. No. 5897 Base No. 5826
								
No. 5523 Base No. 6295	Cap. No. 6336 Base No. 6295	Cap. No. 5657 Base No. 6295	Cap. No. 5700 Base No. 6295	Cap. No. 6328 Base No. 6295	☆	☆	Rec. No. 5424 Base No. 6295	Rec. No. 5897 Base No. 6295
								
No. 5523 Base No. 6298	Cap. No. 6336 Base No. 6298	Cap. No. 5657 Base No. 6298	Cap. No. 5700 Base No. 6298	Cap. No. 6328 Base No. 6298	☆	☆	Rec. No. 5424 Base No. 6298	Rec. No. 5897 Base No. 6298
								

Charts Patented, March 16, 1916.

All the above devices are packed 10 to a carton. Standard finishes for caps is brush brass. For special finished brass or plated caps, see another page. Brush brass shipped unless otherwise specified. The above cartridge fuse plugs are furnished complete with 6-ampere Type C Baby Fuses. Length over all, 1 1/4 inches; diameter, 3/8 inch. When furnished without the fuse, list 25 cents from price list. When two catalogue numbers appear with illustration, the base and cap are packed and sold as separate units, the price of the whole being the aggregate of the units. Where only one catalogue number appears the device is listed complete. \*Not a practical combination.



## HUBBELL ATTACHMENT PLUGS

### CURRENT TAPS, FIXTURE RECEPTACLES AND CORD CONNECTORS

#### NATIONAL ELECTRICAL CODE STANDARD SCHEDULE H

All Screw Base Plugs, 660 Watts, 250 Volts

All other Plugs, Connectors and Receptacles, 6 Amperes, 250 Volts

Listing of combinations of different caps with bases are continued on the following page.

National Electrical Code Standard All Screw Base Plugs 660 Watts, 250 Volts All other Plugs, Connectors and Receptacles 6 Amperes, 250 Volts	No. 5964 Composition Cap	No. 5965 Brass Covered Composition	No. 6060 Composition "Knostrain"	No. 6061 Br. Cov. Comp. "Knostrain"	No. 5419 Porcelain Cap	No. 5420 Composition Cap	No. 5421 Brass Covered Porcelain Cap
							
15c-Std. Pk. 250	25c-Std. Pk. 250	25c-Std. Pk. 50	55c-Std. Pk. 50	15c-Std. Pk. 100	20c-Std. Pk. 100	25c-Std. Pk. 100	25c-Std. Pk. 100
*No. 6297 Current Tap  Multiple 50c-Std. Pk. 100	Cap No. 5964 Base No. 6297 	Cap No. 5965 Base No. 6297 	Cap No. 6060 Base No. 6297 	Cap No. 6061 Base No. 6297 	No. 5735  65c-Std. Pk. 100	Cap No. 5420 Base No. 6297 	Cap No. 5421 Base No. 6297 
*No. 6339 Current Tap  Multiple 60c-Std. Pk. 100	Cap No. 5964 Base No. 6339 	Cap No. 5965 Base No. 6339 	Cap No. 6060 Base No. 6339 	Cap No. 6061 Base No. 6339 	Cap No. 5419 Base No. 6339 	No. 6338  80c-Std. Pk. 100	Cap No. 5421 Base No. 6339 
No. 6250 Fixture Receptacle with Brass Casing  60c-Std. Pk. 20	Cap No. 5964 Base No. 6250 	Cap No. 5965 Base No. 6250 	Cap No. 6060 Base No. 6250 	Cap No. 6061 Base No. 6250 	Cap No. 5419 Base No. 6250 	Cap No. 5420 Base No. 6250 	Cap No. 5421 Base No. 6250 
No. 6251 Fixture Receptacle without Casing  40c-Std. Pk. 20	Cap No. 5964 Base No. 6251 	Cap No. 5965 Base No. 6251 	Cap No. 6060 Base No. 6251 	Cap No. 6061 Base No. 6251 	Cap No. 5419 Base No. 6251 	Cap No. 5420 Base No. 6251 	Cap No. 5421 Base No. 6251 
No. 6252 Fixture Receptacle with 1/8-inch Bushing  60c-Std. Pk. 20	Cap No. 5964 Base No. 6252 	Cap No. 5965 Base No. 6252 	Cap No. 6060 Base No. 6252 	Cap No. 6061 Base No. 6252 	Cap No. 5419 Base No. 6252 	Cap No. 5420 Base No. 6252 	Cap No. 5421 Base No. 6252 
No. 6253 Fixture Receptacle with 3/8-inch Bushing  65c-Std. Pk. 20	Cap No. 5964 Base No. 6253 	Cap No. 5965 Base No. 6253 	Cap No. 6060 Base No. 6253 	Cap No. 6061 Base No. 6253 	Cap No. 5419 Base No. 6253 	Cap No. 5420 Base No. 6253 	Cap No. 5421 Base No. 6253 
No. 6087 Porcelain Cord Connector Body  25c-Std. Pk. 50	Cap No. 5964 Base No. 6087 	Cap No. 5965 Base No. 6087 	Cap No. 6060 Base No. 6087 	Cap No. 6061 Base No. 6087 	Cap No. 5419 Base No. 6087 	Cap No. 5420 Base No. 6087 	Cap No. 5421 Base No. 6087 

All the above devices are packed 10 to a carton.  
Standard finish brush brass and polished brass. For special finished rims on No. 6251 receptacle add to list 15 cents.  
When two catalogue numbers appear with illustration, the base and cap are packed and sold as separate units. The price of the whole being the aggregate of the units. Where only one catalogue number appears, the device is packed complete in cases where base and cap are separately packed but ordered at the same time, the standard package quantity of both will be that applying to the base.

Charts Patented, March 21, 1910



# HUBBELL ATTACHMENT PLUGS

## CURRENT TAPS, FIXTURE RECEPTACLES AND CORD CONNECTORS

### NATIONAL ELECTRICAL CODE STANDARD

#### SCHEDULE H

All Screw Base Plugs, 660 Watts, 250 Volts  
All other Plugs, Connectors and Receptacles, 6 Amperes, 250 Volts

Items only for combinations listed below are illustrated on the previous page.

No. 5523 Covered Receptacle	No. 6336 Elongated Composition	No. 5657 Br. Cov. Compo. "Knostrain"	No. 5700 Br. Cov. Compo. "Knostrain"	No. 6328 Compo. Swivel "Knostrain" Bushing	No. 5625 Porc. Mult. Current Tap	No. 6335 Compo. Mult. Current Tap	No. 5424 Porcelain Lamp Receptacle	No. 5897 Composition Lamp Receptacle
Std. Pk. 100	30c-Std. Pk. 100	45c-Std. Pk. 50	55c-Std. Pk. 50	35c-Std. Pk. 50	35c-Std. Pk. 50	45c-Std. Pk. 50	25c-Std. Pk. 100	35c-Std. Pk. 100
Cap. No. 5523 Base No. 6297	Cap. No. 6336 Base No. 6297	Cap. No. 5657 Base No. 6297	Cap. No. 5700 Base No. 6297	Cap. No. 6328 Base No. 6297			Rec. No. 5424 Base No. 6297	Rec. No. 5897 Base No. 6297
					☆	☆		
Cap. No. 5523 Base No. 6339	Cap. No. 6336 Base No. 6339	Cap. No. 5657 Base No. 6339	Cap. No. 5700 Base No. 6339	Cap. No. 6328 Base No. 6339			Rec. No. 5424 Base No. 6339	Rec. No. 5897 Base No. 6339
					☆	☆		
Cap. No. 5523 Base No. 6250	Cap. No. 6336 Base No. 6250	Cap. No. 5657 Base No. 6250	Cap. No. 5700 Base No. 6250	Cap. No. 6328 Base No. 6250	Tap. No. 5625 Base No. 6250	Tap. No. 6335 Base No. 6250	Rec. No. 5424 Base No. 6250	Rec. No. 5897 Base No. 6250
Cap. No. 5523 Base No. 6251	Cap. No. 6336 Base No. 6251	Cap. No. 5657 Base No. 6251	Cap. No. 5700 Base No. 6251	Cap. No. 6328 Base No. 6251	Tap. No. 5625 Base No. 6251	Tap. No. 6335 Base No. 6251	Rec. No. 5424 Base No. 6251	Rec. No. 5897 Base No. 6251
Cap. No. 5523 Base No. 6252	Cap. No. 6336 Base No. 6252	Cap. No. 5657 Base No. 6252	Cap. No. 5700 Base No. 6252	Cap. No. 6328 Base No. 6252	Tap. No. 5625 Base No. 6252	Tap. No. 6335 Base No. 6252	Rec. No. 5424 Base No. 6252	Rec. No. 5897 Base No. 6252
Cap. No. 5523 Base No. 6253	Cap. No. 6336 Base No. 6253	Cap. No. 5657 Base No. 6253	Cap. No. 5700 Base No. 6253	Cap. No. 6328 Base No. 6253	Tap. No. 5625 Base No. 6253	Tap. No. 6335 Base No. 6253	Rec. No. 5424 Base No. 6253	Rec. No. 5897 Base No. 6253
Cap. No. 5523 Base No. 6087	Cap. No. 6336 Base No. 6087	Cap. No. 5657 Base No. 6087	Cap. No. 5700 Base No. 6087	Cap. No. 6328 Base No. 6087	Tap. No. 5625 Base No. 6087	Tap. No. 6335 Base No. 6087	Rec. No. 5424 Base No. 6087	Rec. No. 5897 Base No. 6087

All the above devices are packed 10 to a carton.  
Standard finish, brush brass. For other finishes on fixture receptacles see a following page. For special finished, brass-tipped caps, see a following page. For special finished rims on No. 6251 receptacle add to list 15 cents. Brush brass shipped as otherwise specified.  
When two catalogue numbers appear with illustration, the base and cap are packed and sold as separate units, the price of whole being the aggregate of the units. Where only one catalogue number appears, the device is packed complete. In cases where base and cap are separately packed but ordered at the same time, the standard package quantity of both will be applicable to the base.  
\*Not a practical combination.

Charts Patented, March, 21, 1916


















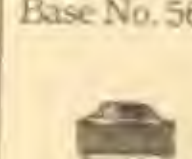

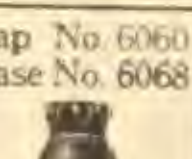
## HUBBELL ATTACHMENT PLUGS

### CORD CONNECTORS AND WALL RECEPTACLES

#### NATIONAL ELECTRICAL CODE STANDARD, 6 AMPERES, 250 VOLTS

#### SCHEDULE H

Listing of combinations of different caps with bases illustrated below are continued on the following page.

National Electrical Code Standard All Screw Base Plugs 660 Watts 250 Volts All other Plugs, Connectors and Receptacles 6 Amperes, 250 Volts	No. 5964 Composition Cap	No. 5965 Brass Covered Composition	No. 6060 Composition "Knostrain"	No. 6061 Br. Cov. Compos. "Knostrain"	No. 5419 Porcelain Cap	No. 5420 Composition Cap	No. 5421 Brass Covered Composition Cap
							
15c-Std. Pk. 250	25c-Std. Pk. 250	25c-Std. Pk. 50	55c-Std. Pk. 50	15c-Std. Pk. 100	20c-Std. Pk. 100	25c-Std. Pk. 100	25c-Std. Pk. 100
No. 5574 Connector Body 	Cap No. 5964 Base No. 5574 	Cap No. 5965 Base No. 5574 	Cap No. 6060 Base No. 5574 	Cap No. 6061 Base No. 5574 	Cap No. 5419 Base No. 5574 	No. 5518 	Cap No. 5421 Base No. 5574 
30c-Std. Pk. 100						50c-Std. Pk. 100	
No. 6095 Connector Body "Knostrain" Bushing 	Cap No. 5964 Base No. 6095 	Cap No. 5965 Base No. 6095 	Cap No. 6060 Base No. 6095 	Cap No. 6061 Base No. 6095 	Cap No. 5419 Base No. 6095 	Cap No. 5420 Base No. 6095 	Cap No. 5421 Base No. 6095 
80c-Std. Pk. 50							
No. 5617 Concealed Recept. Screws 1 1/4" Centers 	Cap No. 5964 Base No. 5617 	Cap No. 5965 Base No. 5617 	Cap No. 6060 Base No. 5617 	Cap No. 6061 Base No. 5617 	Cap No. 5419 Base No. 5617 	Cap No. 5420 Base No. 5617 	Cap No. 5421 Base No. 5617 
35c-Std. Pk. 100							
No. 5618 Cleat Recept. Screws 1 1/4" Centers 	Cap No. 5964 Base No. 5618 	Cap No. 5965 Base No. 5618 	Cap No. 6060 Base No. 5618 	Cap No. 6061 Base No. 5618 	Cap No. 5419 Base No. 5618 	Cap No. 5420 Base No. 5618 	Cap No. 5421 Base No. 5618 
35c-Std. Pk. 50							
No. 5619 Moulding Recept. Screws 1 1/4" Centers 	Cap No. 5964 Base No. 5619 	Cap No. 5965 Base No. 5619 	Cap No. 6060 Base No. 5619 	Cap No. 6061 Base No. 5619 	Cap No. 5419 Base No. 5619 	Cap No. 5420 Base No. 5619 	Cap No. 5421 Base No. 5619 
70c-Std. Pk. 50							
No. 5939 One-Way Recept. National Moulding 	Cap No. 5964 Base No. 5939 	Cap No. 5965 Base No. 5939 	Cap No. 6060 Base No. 5939 	Cap No. 6061 Base No. 5939 	Cap No. 5419 Base No. 5939 	Cap No. 5420 Base No. 5939 	Cap No. 5421 Base No. 5939 
35c-Std. Pk. 50							
No. 6068 Two-Way Recept. National Moulding 	Cap No. 5964 Base No. 6068 	Cap No. 5965 Base No. 6068 	Cap No. 6060 Base No. 6068 	Cap No. 6061 Base No. 6068 	Cap No. 5419 Base No. 6068 	Cap No. 5420 Base No. 6068 	Cap No. 5421 Base No. 6068 
35c-Std. Pk. 50							

All the above devices are packed 10 to a carton.  
Standard finish for caps, is brush brass. Brush brass shipped unless otherwise specified. For special finished brass covered caps, see a following page.  
When two catalogue numbers appear with illustration, the base and cap are packed and sold as separate units, the price of the whole being the aggregate of the units. When only one catalogue number appears the device is packed complete.

Charts Patented, March 21, 1924



# HUBBELL ATTACHMENT PLUGS

## CORD CONNECTORS AND WALL RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD, 6 AMPERES, 250 VOLTS  
SCHEDULE H

See only for combinations listed below are illustrated on the previous page.

 No. 5621 Covered Receptacle	 No. 6336 Elongated Composition	 No. 5657 Br. Cov. Compo. 'Knobstron'	 No. 5700 Br. Cov. Compo. 'Knobstron'	 No. 6328 Compo. Swivel 'Knobstron' Bushing	 No. 5625 Porc. Mult. Current Tap	 No. 6335 Compo. Mult. Current Tap	 No. 5424 Porcelain Lamp Receptacle	 No. 5897 Composition Lamp Receptacle
1/2 Pk. 100	30-Std. Pk. 100	45c Std. Pk. 50	55c Std. Pk. 50	35c Std. Pk. 50	35c Std. Pk. 50	45c Std. Pk. 50	25c Std. Pk. 100	35c Std. Pk. 100
No. 5523 No. 5574	Cap. No. 6336 Base No. 5574	Cap. No. 5657 Base No. 5574	Cap. No. 5700 Base No. 5574	Cap. No. 6328 Base No. 5574	Tap. No. 5625 Base No. 5574	Tap. No. 6335 Base No. 5574	Rec. No. 5424 Base No. 5574	Rec. No. 5897 Base No. 5574
No. 5523 No. 5657	Cap. No. 6336 Base No. 6095	Cap. No. 5657 Base No. 6095	No. 5699	Cap. No. 6328 Base No. 6095	Tap. No. 5625 Base No. 6095	Tap. No. 6335 Base No. 6095	Rec. No. 5424 Base No. 6095	Rec. No. 5897 Base No. 6095
No. 5523 No. 5617	Cap. No. 6336 Base No. 5617	Cap. No. 5657 Base No. 5617	Cap. No. 5700 Base No. 5617	Cap. No. 6328 Base No. 5617	Tap. No. 5625 Base No. 5617	Tap. No. 6335 Base No. 5617	Rec. No. 5424 Base No. 5617	Rec. No. 5897 Base No. 5617
No. 5523 No. 5618	Cap. No. 6336 Base No. 5618	Cap. No. 5657 Base No. 5618	Cap. No. 5700 Base No. 5618	Cap. No. 6328 Base No. 5618	Tap. No. 5625 Base No. 5618	Tap. No. 6335 Base No. 5618	Rec. No. 5424 Base No. 5618	Rec. No. 5897 Base No. 5618
No. 5523 No. 5619	Cap. No. 6336 Base No. 5619	Cap. No. 5657 Base No. 5619	Cap. No. 5700 Base No. 5619	Cap. No. 6328 Base No. 5619	Tap. No. 5625 Base No. 5619	Tap. No. 6335 Base No. 5619	Rec. No. 5424 Base No. 5619	Rec. No. 5897 Base No. 5619
No. 5523 No. 5939	Cap. No. 6336 Base No. 5939	Cap. No. 5657 Base No. 5939	Cap. No. 5700 Base No. 5939	Cap. No. 6328 Base No. 5939	Tap. No. 5625 Base No. 5939	Tap. No. 6335 Base No. 5939	Rec. No. 5424 Base No. 5939	Rec. No. 5897 Base No. 5939
No. 5523 No. 6068	Cap. No. 6336 Base No. 6068	Cap. No. 5657 Base No. 6068	Cap. No. 5700 Base No. 6068	Cap. No. 6328 Base No. 6068	Tap. No. 5625 Base No. 6068	Tap. No. 6335 Base No. 6068	Rec. No. 5424 Base No. 6068	Rec. No. 5897 Base No. 6068

Charts Patented, March 21, 1916.

All the above devices are packed 10 to a carton.  
Standard finish for caps is brush brass. Brush brass shipped unless otherwise specified. For special finished brass-  
fired caps, see a following page.  
When two catalogue numbers appear with illustration, the base and cap are packed and sold as separate units, the price of  
whole being the aggregate of the units. When only one catalogue number appears the device is packed complete.










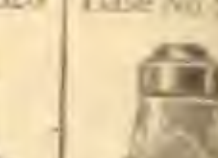






























## HUBBELL ATTACHMENT PLUGS

### CONDUIT BOX, WEATHERPROOF AND FLUSH RECEPTACLES

#### NATIONAL ELECTRICAL CODE STANDARD, 6 AMPERES, 250 VOLTS

#### SCHEDULE H

Listing of combinations of different caps with bases illustrated below are continued on the following page.

National Electrical Code Standard All Screw Base Plugs 600 Watts, 250 Volts All other Plugs, Connectors and Receptacles 6 Amperes, 250 Volts	No. 5964 Composition Cap	No. 5965 Brass Covered Composition	No. 6060 Composition "Knobtrain"	No. 6061 Br. Cov. Compos. "Knobtrain"	No. 5419 Porcelain Cap	No. 5420 Composition Cap	No. 5421 Brass Covered Porcelain Cap
							
	15c-Std. Pk. 250	25c-Std. Pk. 250	25c-Std. Pk. 50	55c-Std. Pk. 50	15c-Std. Pk. 100	20c-Std. Pk. 100	25c-Std. Pk. 100
No. 5620 Fielding Receptacle, Screws 2 3/8" Centers	Cap. No. 5964 Base No. 5620	Cap. No. 5965 Base No. 5620	Cap. No. 6060 Base No. 5620	Cap. No. 6061 Base No. 5620	Cap. No. 5419 Base No. 5620	Cap. No. 5420 Base No. 5620	Cap. No. 5421 Base No. 5620
							
35c-Std. Pk. 50							
No. 5624 Conduit Box Recept. Screws 2 3/8" Centers	Cap. No. 5964 Base No. 5624	Cap. No. 5965 Base No. 5624	Cap. No. 6060 Base No. 5624	Cap. No. 6061 Base No. 5624	Cap. No. 5419 Base No. 5624	Cap. No. 5420 Base No. 5624	Cap. No. 5421 Base No. 5624
							
30c-Std. Pk. 100							
No. 6103 Conduit Box Recept. Cover Suspension	Cap. No. 5964 Base No. 6103	Cap. No. 5965 Base No. 6103	Cap. No. 6060 Base No. 6103	Cap. No. 6061 Base No. 6103	Cap. No. 5419 Base No. 6103	Cap. No. 5420 Base No. 6103	Cap. No. 5421 Base No. 6103
							
45c-Std. Pk. 50							
No. 6294 Porcelain Weather- proof Receptacle	Cap. No. 5964 Base No. 6294	Cap. No. 5965 Base No. 6294	Cap. No. 6060 Base No. 6294	Cap. No. 6061 Base No. 6294	Cap. No. 5419 Base No. 6294	Cap. No. 5420 Base No. 6294	Cap. No. 5421 Base No. 6294
							
65c-Std. Pk. 30							
No. 6293 Comp. Weather- proof Receptacle	Cap. No. 5964 Base No. 6293	Cap. No. 5965 Base No. 6293	Cap. No. 6060 Base No. 6293	Cap. No. 6061 Base No. 6293	Cap. No. 5419 Base No. 6293	Cap. No. 5420 Base No. 6293	Cap. No. 5421 Base No. 6293
							
70c-Std. Pk. 30							
No. 6282 Flush Receptacle 2 1/2" Plate Assembled	Cap. No. 5964 Base No. 6282	Cap. No. 5965 Base No. 6282	Cap. No. 6060 Base No. 6282	Cap. No. 6061 Base No. 6282	Cap. No. 5419 Base No. 6282	Cap. No. 5420 Base No. 6282	Cap. No. 5421 Base No. 6282
							
90c-Std. Pk. 50							
No. 6283 Flush Receptacle 3 1/4" Plate Assembled	Cap. No. 5964 Base No. 6283	Cap. No. 5965 Base No. 6283	Cap. No. 6060 Base No. 6283	Cap. No. 6061 Base No. 6283	Cap. No. 5419 Base No. 6283	Cap. No. 5420 Base No. 6283	Cap. No. 5421 Base No. 6283
							
\$1.00-Std. Pk. 50							

#### Round Plates and Receptacles

Mfrs. No.	Diam. In.	Description	Supporting Screw Holes, Cent., In.	Std. Pkg.	Price Each
5615	2 3/4	Plate for No. 6282 receptacle	1 1/8	50	\$0.50
5616	3 1/4	Plate for No. 6283 receptacle	2 1/8	50	.60
5614		Porcelain receptacle only for No. 6282 or No. 6283		50	.40
6768		Porc. recept. only for No. 6282 or No. 6283 without supporting straps		50	.30

All devices listed above, except Nos. 6282 and 6283, are packed 10 to a carton. Nos. 6282 and 6283 are packed 1 to a carton.  
For information regarding finishes, method of packing, etc. see a following page.










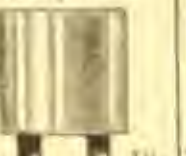

# HUBBELL ATTACHMENT PLUGS

## CONDUIT BOX, WEATHERPROOF AND FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD, 6 AMPERES, 250 VOLTS

### SCHEDULE H

Receptacles only for combinations listed below are illustrated on the previous page.

								
14 Pk. 100	30c-Std. Pk. 100	45c-Std. Pk. 50	55c-Std. Pk. 50	35c-Std. Pk. 50	15c-Std. Pk. 50	45c-Std. Pk. 50	25c-Std. Pk. 100	35c-Std. Pk. 100
No. 5523 No. 5620	Cap. No. 6336 Base No. 5620	Cap. No. 5657 Base No. 5620	Cap. No. 5700 Base No. 5620	Cap. No. 6328 Base No. 5620	Tap. No. 5625 Base No. 5620	Tap. No. 6335 Base No. 5620	Rec. No. 5424 Base No. 5620	Rec. No. 5897 Base No. 5620
No. 5523 No. 5624	Cap. No. 6336 Base No. 5624	Cap. No. 5657 Base No. 5624	Cap. No. 5700 Base No. 5624	Cap. No. 6328 Base No. 5624	Tap. No. 5625 Base No. 5624	Tap. No. 6335 Base No. 5624	Rec. No. 5424 Base No. 5624	Rec. No. 5897 Base No. 5624
No. 5523 No. 6103	Cap. No. 6336 Base No. 6103	Cap. No. 5657 Base No. 6103	Cap. No. 5700 Base No. 6103	Cap. No. 6328 Base No. 6103	Tap. No. 5625 Base No. 6103	Tap. No. 6335 Base No. 6103	Rec. No. 5424 Base No. 6103	Rec. No. 5897 Base No. 6103
No. 5523 No. 6294	Cap. No. 6336 Base No. 6294	Cap. No. 5657 Base No. 6294	Cap. No. 5700 Base No. 6294	☆	Tap. No. 5625 Base No. 6294	Tap. No. 6335 Base No. 6294	Rec. No. 5424 Base No. 6294	Rec. No. 5897 Base No. 6294
No. 5523 No. 6293	Cap. No. 6336 Base No. 6293	Cap. No. 5657 Base No. 6293	Cap. No. 5700 Base No. 6293	☆	Tap. No. 5625 Base No. 6293	Tap. No. 6335 Base No. 6293	Rec. No. 5424 Base No. 6293	Rec. No. 5897 Base No. 6293
No. 5523 No. 6282	Cap. No. 6336 Base No. 6282	Cap. No. 5657 Base No. 6282	Cap. No. 5700 Base No. 6282	Cap. No. 6328 Base No. 6282	Tap. No. 5625 Base No. 6282	Tap. No. 6335 Base No. 6282	Rec. No. 5424 Base No. 6282	Rec. No. 5897 Base No. 6282
No. 5523 No. 6283	Cap. No. 6336 Base No. 6283	Cap. No. 5657 Base No. 6283	Cap. No. 5700 Base No. 6283	Cap. No. 6328 Base No. 6283	Tap. No. 5625 Base No. 6283	Tap. No. 6335 Base No. 6283	Rec. No. 5424 Base No. 6283	Rec. No. 5897 Base No. 6283

Charts Patented, March 21, 1916

For listing of plates and receptacles for Nos. 6282 and 6283 see previous page.  
All devices listed above, except Nos. 6282 and 6283, are packed 10 to a carton. Nos. 6282 and 6283 are packed 1 to a box.  
Brush brass is standard finish for brass plates. For special finishes, see a following page. Brush brass shipped unless otherwise specified.  
When two catalogue numbers appear with illustration, the base and cap are packed and sold as separate units, the price the whole being the aggregate of the units.  
\*Not a practical combination.



## HUBBELL ATTACHMENT PLUGS

## FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD, 6 AMPERES, 250 VOLTS  
SCHEDULE H

Listing of combinations of different caps with receptacles illustrated below are continued on the following page.

National Electrical Code Standard All Screw Base Plugs 600 Watts, 250 Volts All other Plugs, Connectors and Receptacles 6 Amperes, 250 Volts	No. 5964 Composition Cap	No. 5965 Brass Covered Composition	No. 6060 Composition "Knostram"	No. 6061 Br. Cov. Compo. "Knostram"	No. 5419 Porcelain Cap	No. 5420 Composition Cap	No. 5421 Brass Covered Porcelain Cap
							
	15c-Std. Pk. 250	25c-Std. Pk. 250	25c-Std. Pk. 50	55c-Std. Pk. 50	15c-Std. Pk. 100	20c-Std. Pk. 100	25c-Std. Pk. 100
No. 5547 Flush Receptacle 	Cap No. 5964 Rec. No. 5547 	Cap No. 5965 Rec. No. 5547 	Cap No. 6060 Rec. No. 5547 	Cap No. 6061 Rec. No. 5547 	Cap No. 5419 Rec. No. 5547 	Cap No. 5420 Rec. No. 5547 	Cap No. 5421 Rec. No. 5547 
	60c-Std. Pk. 100						
No. 5579 Flush Receptacle With Lift Cover 	Cap No. 5964 Rec. No. 5579 	Cap No. 5965 Rec. No. 5579 	Cap No. 6060 Rec. No. 5579 	Cap No. 6061 Rec. No. 5579 	Cap No. 5419 Rec. No. 5579 	Cap No. 5420 Rec. No. 5579 	Cap No. 5421 Rec. No. 5579 
	65c-Std. Pk. 50						
No. 6257 Duplex Flush Receptacle 	Cap No. 5964 Rec. No. 6257 	Cap No. 5965 Rec. No. 6257 	Cap No. 6060 Rec. No. 6257 	Cap No. 6061 Rec. No. 6257 	Cap No. 5419 Rec. No. 6257 	Cap No. 5420 Rec. No. 6257 	Cap No. 5421 Rec. No. 6257 
	85c-Std. Pk. 100						

Charts Patented March 2, 1918



Showing Aligning Lugs

FLUSH RECEPTACLES  
With Adjustable Aligning Lugs  
6 Amperes, 250 Volts

The use of adjustable lugs for flush receptacles will accomplish a great saving of labor in the installation of flush plug receptacles, particularly in new building work.

The outlet box should be installed so that the opening will come flush with the plaster line of the wall.

To attach aligning plate receptacles to outlet boxes, insert receptacle into the box until aligning plate is flush with the plaster line. The set screws in the lugs are then loosened, and the lugs pushed back until they rest on the outlet box. The set screws may then be tightened until the lugs are firmly fixed. The outlet box screws are then fastened through the lugs and the whole operation results in a receptacle so installed as to be impossible

of any movement, and flush with the plaster line. Inside supporting screws, flush receptacle, 2 3/8 inches on centers.

Receptacle No. 6618 takes the regular No. 5548 face plate.

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
202346	6618	Porcelain flush receptacle	10	100	50	\$0.50



# HUBBELL ATTACHMENT PLUGS

## FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD, 6 AMPERES, 250 VOLTS

### SCHEDULE H

Receptacles only for combinations listed below are illustrated on the previous page.

No. 5523 Covered Receptacle	No. 6336 Elongated Composition	No. 5657 Br. Cov. Compo. "Knostrain" Bushing	No. 5700 Br. Cov. Compo. "Knostrain" Bushing	No. 6328 Compo. Swivel "Knostrain" Bushing	No. 5625 Porcelain Multiple Current Tap	No. 6335 Composition Multiple Current Tap	No. 5424 Porcelain Lamp Receptacle	No. 5897 Composition Lamp Receptacle
Std. Pk. 100	30-Std. Pk. 100	45c-Std. Pk. 50	55c-Std. Pk. 50	35c-Std. Pk. 50	35c-Std. Pk. 50	45c-Std. Pk. 50	25c-Std. Pk. 100	35c-Std. Pk. 100
No. 5523 No. 5547	Cap. No. 6386 Rec. No. 5547	Cap. No. 5657 Rec. No. 5547	Cap. No. 5700 Rec. No. 5547	Cap. No. 6328 Rec. No. 5547	Tap No. 5625 Rec. No. 5547	Tap No. 6335 Rec. No. 5547	Rec. No. 5424 Rec. No. 5547	Rec. No. 5897 Rec. No. 5547
No. 5523 No. 5579	Cap. No. 6336 Rec. No. 5579	Cap. No. 5657 Rec. No. 5579	Cap. No. 5700 Rec. No. 5579	Cap. No. 6328 Rec. No. 5579			Rec. No. 5424 Rec. No. 5579	
					☆	☆		☆

Charts Patented March 21, 1916

## FLUSH PLATES FOR Nos. 5547 AND 6618 RECEPTACLES



Nos. 5548  
and 6585



No. 5580



Nos. 6258  
and 6587

Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
5548	Single (stamped) 4 1/2 x 2 3/4 inches	10	100	30	\$0.35
6585	Single (solid) 4 1/2 x 2 3/4 inches	10	100	35	.65
5549	Two-gang (stamped) 4 1/2 x 4 3/8 inches	1	25	13	1.00
6586	Two-gang (solid) 4 1/2 x 4 3/8 inches	1	25	15	1.30
5550	Three-gang (solid) 4 1/2 x 6 3/8 inches	1	20	18	1.95
5599	Four-gang (solid) 4 1/2 x 8 3/8 inches	1	10	20	2.60

### Steel Plate—Genuine Bauer Barff Finish

6584	Single (stamped) 4 1/2 x 2 3/4 inches	10	100	30	.45
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## LIFT COVER FLUSH PLATES FOR No. 5579 RECEPTACLE

5580	Single (solid) 4 1/2 x 2 3/4 inches	10	50	23	1.40
5581	Two-gang (solid) 4 1/2 x 4 3/8 inches	1	25	18	3.00
5582	Three-gang (solid) 4 1/2 x 6 3/8 inches	1	20	17	4.50
5600	Four-gang (solid) 4 1/2 x 8 3/8 inches	1	10	20	6.00

## PLATES FOR No. 6257 DUPLEX RECEPTACLE

6258	Single (stamped) 4 1/2 x 2 3/4 inches	10	100	30	.40
6587	Single (solid) 4 1/2 x 2 3/4 inches	10	100	35	.65
6259	Two-gang (stamped) 4 1/2 x 4 3/8 inches	1	25	12	1.30
6588	Two-gang (solid) 4 1/2 x 4 3/8 inches	1	25	13	1.50
6260	Three-gang (solid) 4 1/2 x 6 3/8 inches	1	20	17	2.25
6261	Four-gang (solid) 4 1/2 x 8 3/8 inches	1	10	18	3.00

### Steel Plate—Black Finish

6603	Single (stamped) 4 1/2 x 2 3/4 inches	10	100	30	.50
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Standard finish on brass flush plates and brass covered caps is Brush Brass. For special finishes, see another page.

\*Not a practical combination. For plates arranged in tandem, add 20 per cent to the list price.

Porcelain receptacle, plate and cap packed in separate cartons under their respective catalogue numbers.



## HUBBELL ATTACHMENT PLUG FITTINGS

## SCHEDULE H



No. 5737



No. 5419



Nos. 6336-6337



No. 5421



No. 5700



No. 5657



No. 6670



No. 6671



No. 5553

No. 5665  
Exposed

No. 6109



No. 5524



No. 5526

## LAMP RECEPTACLES

660 Watts, 250 Volts

## For Large Type Polarized Plug Receptacles

Trade No.	Mfrs. No.	Description	Car- ton	Std. Wt. Pkg.	Lib. Std. Pkg.	Price Each
084031	5737	Porcelain, 6 amps.	10	30	7	\$0.30
66894	5898	Porcelain, 20 amps.	10	30	7	.30

## FUSELESS CAPS

## For Large Type Plug Receptacles

6 Amperes, 250 Volts

084032	5419	Porcelain	10	100	15	15
084033	5420	Composition	10	100	15	20
084034	5421	Brass-cov. porc.	10	100	15	25
084035	5523	Brass-cov. comp.	10	100	15	30
102019	6336	Elongated comp.	10	100	15	30
202714	5814	Elongated porcelain	10	100	18	20

## With Brass-covered Knostrain Bushing

084036	5700	Brass-cov. comp.	10	50	12	55
084037	5657	Brass-cov. comp.	10	50	12	45

## With Knostrain Bushing

## CONVERTIBLE PLUG CAPS AND ATTACHMENT PLUGS

Cap—6 Amperes—250 Volts; Plug—660 Watts—250 Volts

45629	6670	Composition plug with Para- line cap.	25	100	25	35
45630	6671	Paraline cap.	25	100	12	25

This cap is fitted with convertible contact blades which may be adjusted to fit parallel, tandem and right angle polarized form of slots.

## FUSELESS CAPS

## For Large Type Polarized Plug Receptacles

084038	5567	Brass-cov. porc., 6 amps.	10	30	12	50
084039	5553	Brass-cov. porc., 20 amps.	10	30	15	50
102020	6156	Brass-cov. comp., 20 amps.	10	30	15	55
202715	6720	Comp. polarized cap, 20 amps.	10	50	18	30

## With Knostrain Bushing for No. 10 Jumper Cable

084040	5665	Brass-cov. porc., 20 amps.	10	30	12	1.00
102021	6589	Brass-cov. comp., 20 amps.	10	30	12	1.05

## SIGNALITES

6 Amperes, 125 Volts

## With Standard Type Knife-blade Contacts

66897	6108	Without lamp	10	30	12	55
66898	6109	Complete with lamp	10	30	12	1.00
202716	6101	125-V. Cand. base lamp, red	10	10	6 oz.	45

## COMPOSITION ELONGATED CAPS

6 Amperes, 250 Volts

45628	6337	Compo. cap, 1/2-inch cord hole	10	100	20	30
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## FUSIBLE PLUG CAPS

## Equipped with Extra Set of Binding Screws for Fuse Wire

6 Amperes, 250 Volts

084041	5524	Porcelain	10	30	6	25
084042	5525	Composition	10	30	6	30

## Equipped with Knostrain Bushing for Re-enforced Cord

084043	5526	Brass-cov. porc.	10	30	8	50
084044	5527	Brass-cov. comp.	10	30	8	55

Brush brass is finish for brass caps. For special finishes see another page.

Brush brass furnished unless otherwise specified.



# HUBBELL ATTACHMENT PLUGS

## SCHEDULE H



No. 6143  
Exploded View



No. 5598



No. 5747



No. 6069



No. 5895



No. 6277

## HEAVY DUTY POLARIZED ATTACHMENT PLUGS 660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
133115	5598	Porcelain plug with brass covered cap.	10	30	20	\$0.75
133116	6672	Porcelain body only	10	30	15	.25
133117	5567	Brass covered polarized cap	10	30	12	.50

## MOTOR ATTACHMENT PLUGS, REVERSE TYPE 6 Amperes, 250 Volts

039530	5746	Composition body, porcelain cap	10	50	15	.45
039531	5747	Composition body with Knostrain bush- ing and porcelain cap	10	50	15	.95
141028	5574	Composition body only	10	100	10	.30
141029	6095	Composition body only with Knostrain bushing	10	50	15	.80
141030	6069	Porcelain body and porcelain cap	10	50	15	.40
141031	6087	Porcelain body only	10	50	10	.25
039532	5744	Porcelain cap only, with knife-blade con- tacts	10	50	10	.15
66876	5894	Composition body and composition cap.	10	50	15	.50
66877	5895	Composition body with Knostrain bush- ing and composition cap	10	50	20	1.00
66878	5896	Composition cap only, with knife-blade contacts	10	50	10	.20

## MOTOR ATTACHMENT PLUGS, POLARIZED 6 Amperes, 250 Volts

105532	6277	Composition body and composition cap.	10	30	15	.85
105533	6278	Composition body only	10	30	12	.55
105534	6279	Composition cap only, with knife-blade contacts	10	30	10	.30

## REVERSE MOTOR PLUGS WITH KNOSTRAIN BUSHING 6 Amperes, 250 Volts

105531	6143	All composition	10	50	25	.60
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Base slotted for wiring. Screw holes for attaching the base to apparatus are spaced  $1\frac{3}{8}$  inches on centers. The diameter of base is  $2\frac{1}{4}$  inches. Height over all,  $2\frac{3}{4}$  inches.

## COMPOSITION REVERSE ATTACHMENT PLUGS 6 Amperes, 250 Volts

141032	5652	Plug complete	10	50	20	.75
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## COMPOSITION SMALL MOTOR ATTACHMENT PLUGS 6 Amperes, 250 Volts

Designed for use with devices employing small motors, such as vacuum cleaners, floor scrubbers, etc.

141035	6179	Plug complete	10	50	27	.45
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The cap is arranged with holding slots or grooves for fitting into apparatus. The diameter of base is  $1\frac{1}{2}$  inches. Length, assembled,  $1\frac{5}{8}$  inches.

## COMPOSITION TE-CAPS 660 Watts, 250 Volts

202887	6771	Composition Te-cap	10	50	12	.25
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No. 5652



No. 6179



No. 6771



# HUBBELL CURRENT TAPS AND CORD CONNECTORS

## PULL SOCKET CURRENT TAPS

### SCHEDULE B

660 Watts, 250 Volts

These devices are fitted with Hubbell standard plug slots and are interchangeable with all plug caps shown on other pages. Pull chain controls lamp outlet only. Current from plug outlet constant.



No. 3190



No. 3191

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Vol. Each
150851	3190	With med. screw base	10	50	22	\$1.00
150852	3191	With 1/8-inch cap.	10	50	20	1.00
150853	3192	With 1/4-inch cap.	10	50	20	1.10
150854	3193	With 3/8-inch cap.	10	50	20	1.00
150855	3194	With pendent cap.	10	50	20	1.00

Standard finish is brush brass.

Brush brass shipped unless otherwise specified.

### POLARIZED COMPOSITION

### CORD CONNECTORS

#### SCHEDULE H

6 Amperes, 250 Volts



No. 5743



No. 6541

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Vol. Each
150856	5743	Connector with brass covered cap	10	30	16	\$1.05
150857	6278	Composition body only	10	30	12	.35
150858	5567	Cap only	10	30	12	.50

10 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Vol. Each
202597	6541	Connector with brass covered cap	10	30	17	1.55
202598	6673	Composition body only	10	30	10	.80
202599	6674	Cap only	10	30	8	.75

Standard finish, brush brass.

### HUBBELL CURRENT TAPS

For all types of separable and one-piece attachment plugs.

#### SCHEDULE H

660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Vol. Each
150870	6700	Composition current tap complete with separable screw base receptacle	10	50	38	\$0.95

### CORD CONNECTORS WITH KNOSTRAIN BUSHINGS

#### SCHEDULE H

6 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Vol. Each
150862	6594	Complete with bushing	10	50	20	\$1.15
150863	6595	Body only, with bushings	10	50	13	.70
150866	6606	Cap only with 3/8-in. nipple	10	100	20	.40

### COMPOSITION CORD CONNECTORS

With Metal Covered Knostrein Bushings

#### SCHEDULE H

6 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Vol. Each
150867	5699	With brass covered cap	10	50	25	\$1.35
150869	6180	Composition cord connector	10	50	27	.45

Brush brass standard finish for caps.

### CONNECTING BLOCKS

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Vol. Each
150868	6100	For use with 2-way bases for National Metal Molding	10	50	5	\$0.10

This connecting block is furnished with all Two-way National base socket receptacles without extra charge.



No. 6700



No. 6180



No. 6594



No. 5699



No. 6100



# HUBBELL RECEPTACLES, PLUGS AND CURRENT TAPS

## SCHEDULE H



No. 5515



No. 6287



No. 6288



No. 6289



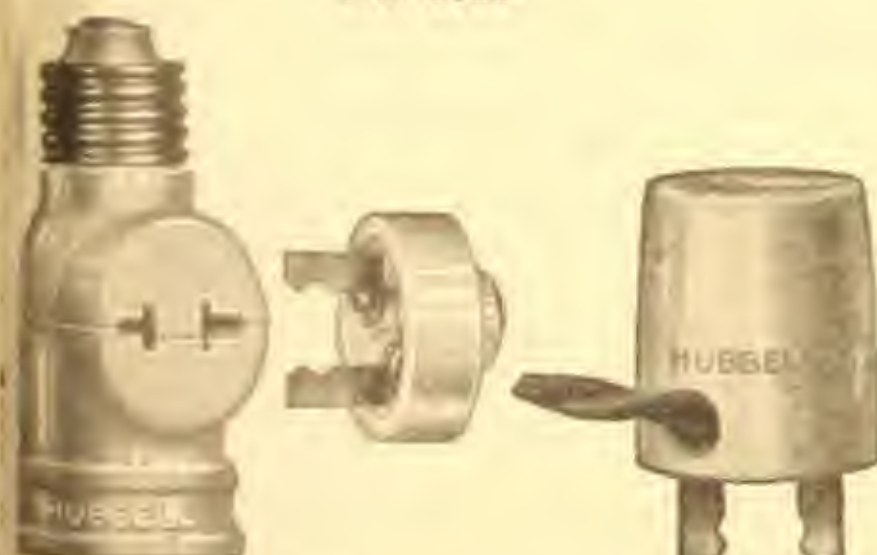
No. 6290



No. 6553



No. 6710



OR. 5736 and 5735

No. 5626

## ANGLE LAMP RECEPTACLES

660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
084014	5515	Porc. angle recep.	10	50	12	\$0.50

## MULTIPLE ATTACHMENT PLUGS

With Medium Screw Base

660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
52479	6287	Two outlets.....	5	10	10	\$0.70
52480	6288	Three outlets...	5	10	15	1.05

With Knife-blade Contacts

6 Amperes, 250 Volts

Nos. 6289 and 6290 are for use with all Hubbell Receptacles, except flush receptacles having lift cover.

Nos. 6291 and 6292 are for use only with flush receptacles having lift cover, No. 5579 Type.

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
150828	6289	Two outlets.....	5	10	15	\$0.70
150829	6291	Two outlets.....	5	10	10	.70
150830	6290	Three outlets...	5	10	15	1.05
150831	6292	Three outlets...	5	10	15	1.05

Above prices of attachment plugs do not include caps. Caps will be found listed on another page.

## PORCELAIN CURRENT TAPS

660 Watts, 250 Volts

### Double Outlet Multiple Current Taps

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
150832	6553	With two No. 5419 porcelain caps.....	10	20	12	\$0.90
150833	6554	Body only.....	10	20	10	.60

### Multiple-composition Current Taps

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
150839	6710	With two No. 5420 caps.....	10	20	12	1.10
150840	6711	Body only.....	10	20	10	.70

### Series Current Taps

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
150834	5653	Without shade holder groove.	10	50	25	.65
150835	5736	With shade holder groove.	10	50	25	.65
150836	5626	Lamp receptacle current taps, side wire outlet.	10	50	15	.35

### Multiple Current Taps

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
150837	5638	Without shade holder groove.	10	100	50	.65
150838	5735	With shade holder groove.	10	100	50	.65

Above single current taps are furnished complete with porcelain cap.



## HUBBELL PLUGS AND RECEPTACLES

SCHEDULE H  
SEPARABLE ATTACHMENT PLUGSFor Three-wire Work, Polarized  
660 Watts, 250 Volts

No. 6146



No. 6408



No. 6706



No. 6055



No. 6090

Trade No.	Mfrs. No.	Description	*Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
80693	6040	With porcelain cap	100	40	\$0.30
80718	6146	With composition cap	100	40	.25
80694	6041	With brass covered porcelain cap	100	40	.30
80721	6308	With brass covered composition cap	100	40	.35
80695	6042	Porcelain base only	100	30	.20
80696	6043	Porcelain cap only	50	12	.25
80719	6149	Composition cap only	50	15	.30
80697	6044	Brass covered porcelain cap	50	12	.35
80722	6150	Brass covered composition cap	50	15	.40

## COMPOSITION CORD CONNECTORS

For Three-wire Work, Polarized 6 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	*Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
80724	6408	Cord connector	50	20	.80
80725	6409	Composition body only	50	15	.50

## WALL RECEPTACLES

For Three-wire Work—6 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	*Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
80698	6045	With porcelain cap	50	30	.75
80720	6147	With composition cap	50	30	.80
80699	6046	With brass covered porcelain cap	50	30	.85
80723	6309	With brass covered composition cap	50	30	.90
80700	6047	Concealed base only	50	25	.50

Supporting screw holes are spaced  $1\frac{3}{4}$  inches on centers.20-AMPERE POLARIZED CORD CONNECTORS  
20 Ampere, 250 Volts

Trade No.	Mfrs. No.	Description	*Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
80726	6706	Cord connector	30	15	\$1.30
80727	6717	Composition body only	30	10	.75
80714	6156	Brass covered cap, polarized	30	10	.55

## 20-AMPERE WALL RECEPTACLES

For Three-wire Work, Polarized, 20 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	*Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
80701	6055	Receptacle, concealed base and polarized cap	30	30	1.25
80702	6058	Polarized cap only	30	15	.80
80703	6059	Concealed base only	30	25	.65

Supporting screw holes are spaced  $1\frac{3}{4}$  inches on centers.WALL RECEPTACLES FOR NATIONAL METAL MOLDING  
With One-way Base—20 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	*Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
80712	6090	With brass covered cap polarized	30	20	1.00
80713	6091	Base only	30	15	.50
80714	5553	Brass covered cap only, polarized	30	10	.50

With Two-way Base—20 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	*Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
80715	6092	With brass covered cap, polarized	30	20	\$1.00
80716	6093	Base only	30	15	.50
80717	5553	Brass covered cap only, polarized	30	10	.50

Brush brass is standard finish for caps for special finishes see another page.

Brush brass shipped unless otherwise specified.

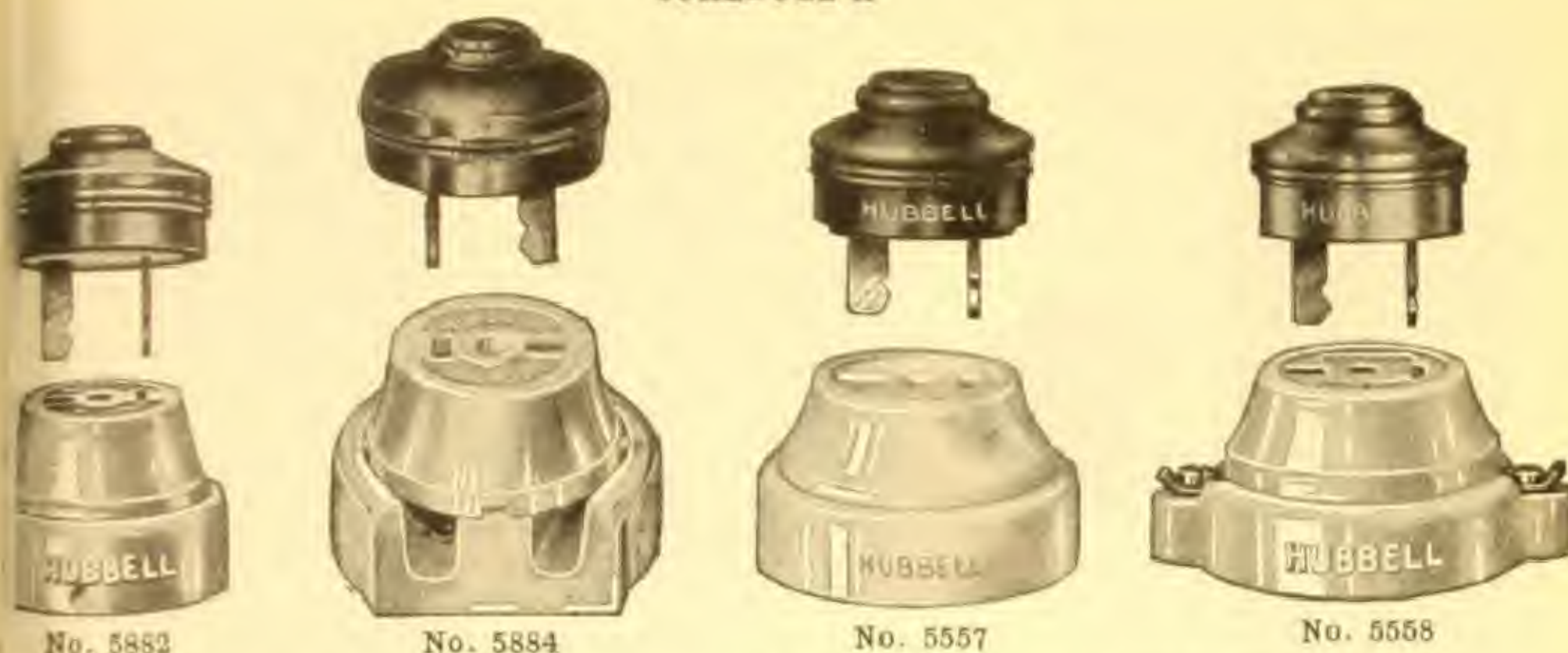
Caps for above receptacles are listed separately on another page.

\*Carton quantity, 10.



# HUBBELL WALL RECEPTACLES

## SCHEDULE H



## POLARIZED WALL RECEPTACLES

6 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
70551	5882	Concealed base and cap	10	30	16	\$0.85
70555	5885	Concealed base only	10	30	9	.40
Holes for supporting screws are spaced 1½ inches on centers.						
70552	5883	Cleat base and cap	10	30	17	.85
70556	5886	Cleat base only	10	30	10	.40
Holes for supporting screws are spaced 1½ inches on centers.						
70553	5884	Molding base and cap	10	30	17	.90
70557	5887	Molding base only	10	30	10	.45
Holes for supporting screws are spaced 1½ inches on centers.						

### Cap Only

70554	5567	Polarized cap only	10	30	12	.50
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20 Amperes, 250 Volts

039467	5557	Concealed base and cap	10	30	25	1.00
039471	5621	Concealed base only	10	30	18	.55
Holes for supporting screws are spaced 1½ inches on centers.						
039468	5558	Cleat base and cap	10	30	25	1.00
039472	5622	Cleat base only	10	30	18	.55
Holes for supporting screws are spaced 1½ inches on centers.						
039469	5559	Molding base and cap	10	30	25	1.05
039473	5623	Molding base only	10	30	18	.60
Holes for supporting screws are spaced 1½ inches on centers.						

### Cap Only

039470	5553	Polarized cap only	10	30	10	.50
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### WITH KNOSTRIN BUSHING FOR No. 10 JUMPER CABLE

20 Amperes, 250 Volts

70559	5726	Concealed base and cap	10	30	32	1.55
70560	5621	Concealed base only	10	30	18	.55
Holes for supporting screws are spaced 1½ inches on centers.						
70561	5727	Cleat base and cap	10	30	32	1.55
70562	5622	Cleat base only	10	30	18	.55
Holes for supporting screws are spaced 1½ inches on centers.						
70563	5728	Molding base and cap	10	30	32	1.60
70564	5623	Molding base only	10	30	18	.60
Holes for supporting screws are spaced 1½ inches on centers.						

### Cap Only

70565	5665	Polarized cap only	10	30	12	1.00
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## CONDUIT BOX RECEPTACLES-POLARIZED

20 Amperes, 250 Volts

063830	5605	With brass covered cap	10	30	20	1.00
67368	5757	Base only	10	30	15	.50
67369	5553	Polarized cap	10	30	10	.50

Holes for supporting screws are spaced 5/8-inch on centers.

Brush brass is standard finish for caps. For special finishes see another page. Brush brass shipped unless otherwise specified.



No. 5727



No. 5728



No. 5605



## HUBBELL FLUSH RECEPTACLES

## SCHEDULE H

## POLARITY TYPE FLUSH RECEPTACLES

## 6 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs.	Qts.	Per Case
039440	5566	Receptacle only...	10	50	30	80	80
039441	5567	Cap only.....	10	30	12		
039442	5568	Single plate.....	10	50	22		
80012	6604	Single steel plate (genuine Bauer Barff).....	10	50	22		
039443	5569	Two-gang plate...	1	25	18	1	18
039444	5570	Three-gang plate...	1	15	17	1	15
039445	5587	Four-gang plate...	1	10	14	2	60

## 20 Amperes, 250 Volts

039447	5552	Receptacle only...	10	30	17		
039434	5553	Brass cov. cap only	10	30	10		
039448	5665	Knostrain cap only	10	30	12		1.00
039435	5554	Single plate.....	10	30	10		
80013	6605	Single steel plate (genuine Bauer Barff).....	10	30	10		
039436	5555	Two-gang plate...	1	15	10	1	30
039437	5556	Three-gang plate...	1	10	10	1	35
039438	5586	Four-gang plate...	1	10	14	2	60

## For Three-wire—250 Volts

80004	6051	Porc. recept. only	10	50	35		
80014	6043	Porc. cap only...	10	50	12		
80015	6044	Brass-covered porc. cap only...	10	50	12		
80016	6149	Comp. cap only...	10	50	15		
80017	6150	Brass covered comp. cap only	10	50	15		
039419	5548	Single plate, .060 stamped metal.	10	100	16		
80010	6585	Single plate, solid	10	100	18		
039420	5549	Two-gang plate, .060 stamped metal	1	25	13	1	00
80011	6586	2-gang plate, solid	1	25	15	1	30
039421	5550	3-gang plate, solid	1	20	18	1	50
039422	5599	4-gang plate, solid	1	10	20	2	00
80009	6584	Single plate, steel, .060 stamped metal	10	100	16		

Outside supporting screw holes,  $3\frac{1}{2}$  inches on centers.

Inside supporting screw holes,  $2\frac{1}{8}$  inches on centers.

Sizes of plates: Single,  $4\frac{1}{2} \times 2\frac{1}{4}$  inches; 2-gang,  $4\frac{1}{2} \times 4\frac{1}{8}$  inches; 3-gang,  $4\frac{1}{2} \times 6\frac{3}{8}$  inches; 4-gang,  $4\frac{1}{2} \times 8\frac{1}{8}$  inches.

\*Porcelain receptacle, plate and cap, packed in separate cartons under their respective numbers.  
†For plates arranged in tandem add 20 per cent to list price. ‡Genuine Bauer-Barff finish.

Brush brass is standard finish for brass plates.

Brush brass, standard finish for caps.

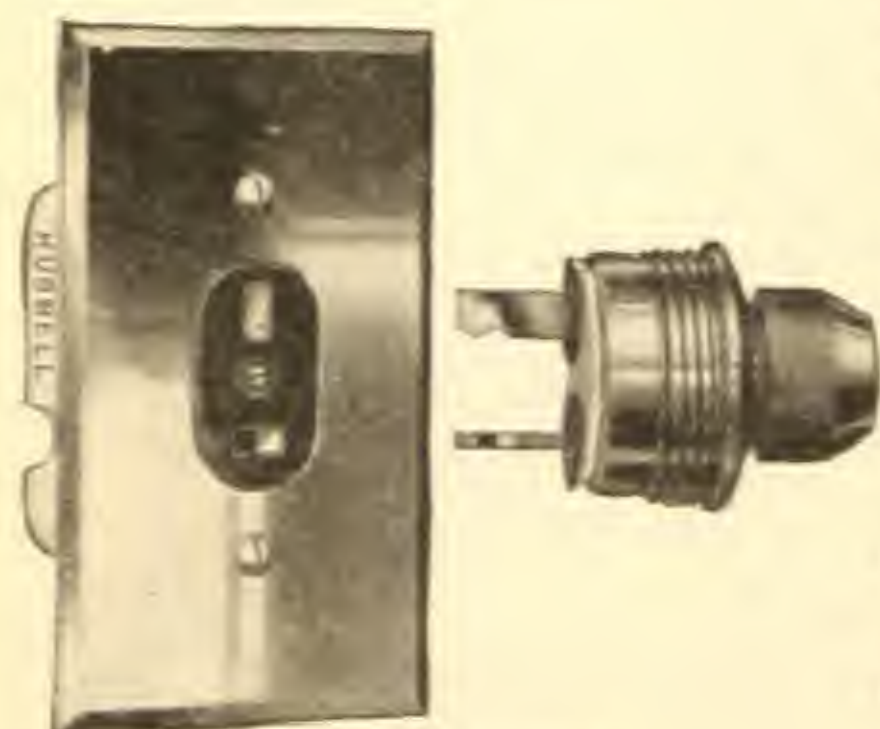
For special finishes see another page.

Caps when furnished as part of the complete flush receptacle, may be had in any of the finishes that are standard on plates, without extra charge.

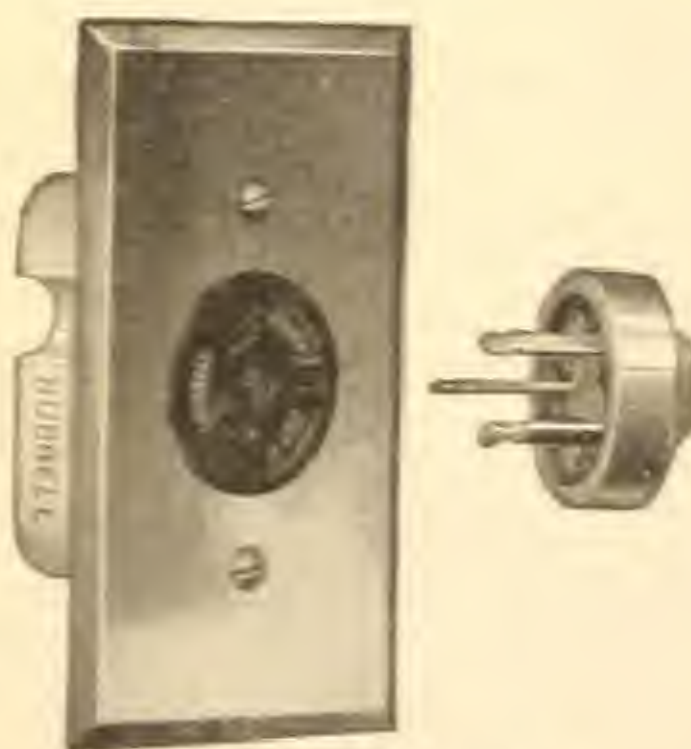
Brush brass plates and caps will be furnished on all orders unless otherwise specified.



No. 5552 Receptacle  
No. 5553 Cap  
No. 5554 Plate



No. 5552 Receptacle  
No. 5665 Cap  
No. 5554 Plate

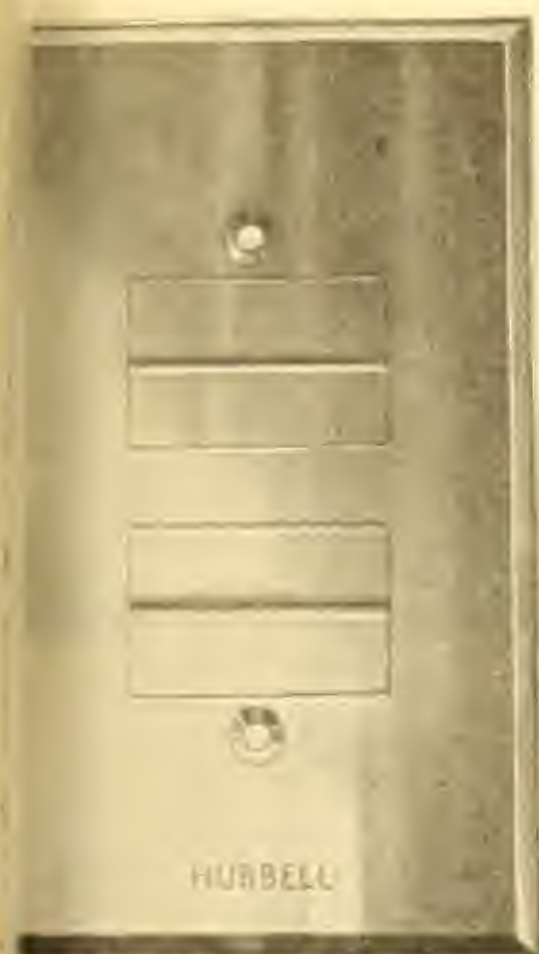


No. 6051 Receptacle  
No. 6150 Brass Covered Cap  
No. 5548 Plate



# HUBBELL FLUSH DOOR RECEPTACLES

## SCHEDULE H



No. 6756



No. 6755 Body



Nos. 6775, 6776 and 6759



No. 6759



No. 6778



No. 6758



No. 6779

This type of flush receptacle embodies the invisible or flush door outlet features with perfect safety and ease in use. Two in-folding doors at each opening are automatically opened on spring hinges as the cap is inserted. Back of this plate, two sets of beveled guide slots are moulded in the porcelain body. The cap blades have to pass through these slots in order to reach the live contact springs. These are concealed in the porcelain body, each spring being within its own chamber, and where a child's fingers could not reach them.

Contact is made with each cap blade on three sides, the blades automatically locking in place.

Porcelain bodies fit standard outlet boxes. Contact screws are so placed that connections may be made from the front.

Wiring is easily accomplished, the removal of one screw exposing the contact screws and knotting space.

## DUPLEX RECEPTACLES 10 Amperes, 250 Volts—Each Outlet

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs.	Price Each
202322	6755	Porcelain receptacle	10	30	17 80	75
202323	6756	Receptacle plate, 2 $\frac{3}{4}$ x4 $\frac{1}{2}$ in	10	30	12	70*
202324	6758	Br. cov. comp. cap, top outlet	10	30	6	60
202325	6759	Br. cov. comp. cap, end outlet	10	30	6	60
202326	6778	Br. cov. comp. cap, 2 cord outlets on side	10	30	6	70
202327	6779	Comp. cap not covered, top outlet	10	30	6	50

## SINGLE RECEPTACLES 10 Amperes, 250 Volts

202328	6775	Porcelain receptacle	10	30	15	50
202329	6776	Receptacle plate, 2 $\frac{3}{4}$ x4 $\frac{1}{2}$ in	10	30	12	45*
202330	6758	Br. cov. comp. cap, top outlet	10	30	6	60
202274	6759	Br. cov. comp. cap, end outlet	10	30	6	60
202326	6778	Br. cov. comp. cap, 2 cord outlets on side	10	30	6	70
202327	6779	Comp. cap not covered, top outlet	10	30	6	50

\*Price applies to stamped plate only. For solid plates, add 25 cents to list.

Outside supporting screw holes, 3 $\frac{3}{8}$  inches on centers.

Inside supporting screw holes, 2 $\frac{5}{8}$  inches on centers.

Cord hole in No. 6759 cap is  $\frac{5}{16}$ -inch diameter.

Cord hole in Nos. 6758 and 6779,  $\frac{1}{2}$ -inch diameter.

Cord holes in No. 6778 is  $\frac{3}{8}$  by  $\frac{1}{2}$ -inch diameter.

Standard finish on plates and caps is brush brass.

Plates for these receptacles can be furnished in gangs at the price of solid plates or 70 cents list per gang for the single plate, and 95 cents for the duplex plate. 30 single plates or equivalent in gangs constitute a standard package.



## HUBBELL SPECIAL PLATES

## TWO-GANG COMBINATION PLATES

## SCHEDULE H



No. 6614



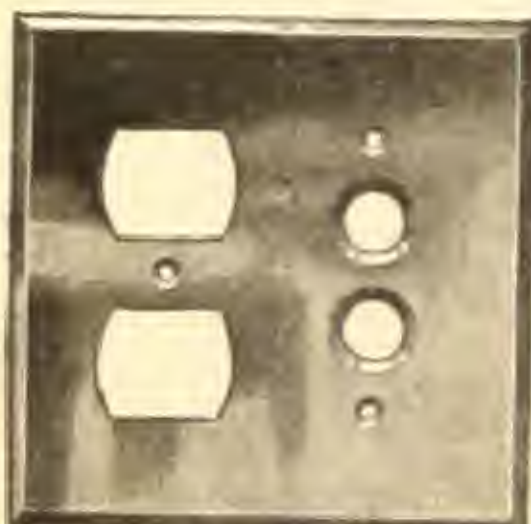
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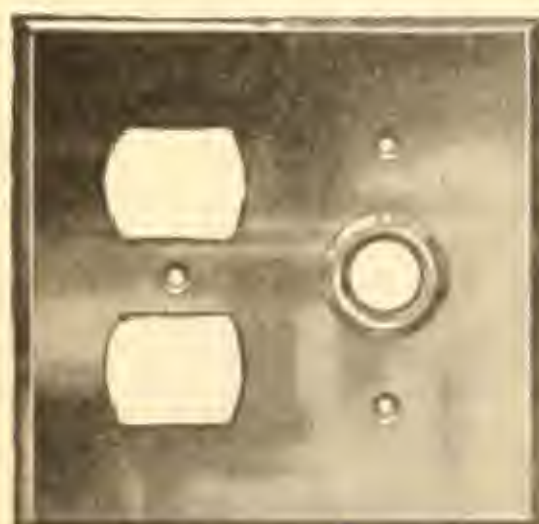
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No. 6723



No. 6615



No. 6724



No. 6617

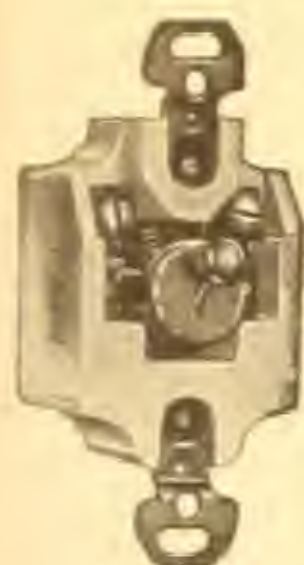
Stamped .060 Metal

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Price Each
200187	6614	For No. 5547 receptacle and stand- ard 2-button push switch....	1	10	\$1.15
200188	6639	For No. 5547 receptacle and No. 5566 receptacle.....	1	10	1.20
200189	6654	For No. 5547 receptacle and No. 5552 receptacle.....	1	10	1.30
200190	6723	For No. 5547 receptacle and toggle flush switch.....	1	10	1.15
200191	6726	For No. 5566 receptacle and stan- dard 2-button switch.....	1	10	1.15
200192	6727	For No. 5552 receptacle and stand- ard 2-button push switch....	1	10	1.15
200193	6615	For No. 6257 receptacle and stand- ard 2-button push switch....	1	10	1.15
200194	6724	For No. 6257 receptacle and toggle switch.....	1	10	1.15
200195	6749	For No. 6257 receptacle and No. 5547 receptacle.....	1	10	1.30
200196	6616	For No. 5579 receptacle and stand- ard 2-button push switch; receptacle on right, switch on left.....	1	10	1.20
200197	6617	For No. 5579 receptacle and stand- ard 2-button push switch; re- ceptacle on left, switch on right	1	10	1.20
200198	6769	For No. 5552 receptacle and toggle switch.....	1	10	1.15
200199	6770	For No. 5566 receptacle and toggle switch.....	1	10	1.15

Standard finish on brass flush plates is brush brass.



# HUBBELL TOGGLE SWITCHES



No. 8141



No. 8141 Assembled



No. 8401



No. 8171



Front View of Single-pole Switch

## TOGGLE FLUSH SWITCHES

### SCHEDULE F

5 Amps., 125 Volts—3 Amps., 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
204260	8141	Single-pole	10	50	20	\$0.45
204261	8143	Three-way	10	50	20	.70

## BRASS FLUSH PLATES

### WITH SCREW HOLES

#### Standard Size

Trade No.	Mfrs. No.	Description	Dimens. Inches	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
204262	8401	Single plate	2 3/4 x 4 1/2	10	*	25	\$0.14
204263	8402	Two-gang	4 9/16 x 4 1/2	10	*	22	.28
204264	8403	Three-gang	6 3/8 x 4 1/2	1	*	20	.42
204265	8404	Four-gang	8 3/8 x 4 1/2	1	*	20	1.40

\*A standard package consists of 50 single plates or equivalent in gangs.

Standard finish for switch plates in brush brass which will be furnished on all orders unless otherwise specified.

## TOGGLE SNAP SWITCHES

### SCHEDULE F

#### Surface Type

The toggle surface switch differs from the ordinary surface switch in that manipulation is by the throw of a lever or toggle instead of by the turning of a key or button. Throwing the lever up makes the circuit; throwing it down breaks the circuit. The movement is positive; the make-and-break quick and snappy.

The advantages of the toggle movement in a surface switch, as in a flush switch are three-fold. First, it makes the switch more attractive and stronger than the ordinary switch can be made; second, manipulation is much more convenient by means of the lever than by the turning of a key; third, the switch is self-indicating, the position of the lever showing at a glance whether the current is "on" or "off" without any marker or dial.

Single-pole, 5 Amperes, 125 Volts—3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
197681	8171	Solid, porcelain base	10	100	35	\$0.60
197682	8191	Slotted, porcelain base	10	100	35	.60
197683	8181	Solid, composition base	10	100	35	.70
197684	8201	Slotted, composition base	10	100	35	.70

Holes for supporting screws are spaced 1 1/2 inches on centers.

Outside diameter of base, 2 1/4 inches.

Three-way, 5 Amperes, 125 Volts—3 Amperes, 250 Volts

197685	8173	Solid, porcelain base	10	100	35	\$0.90
197686	8193	Slotted, porcelain base	10	100	35	.90
197687	8183	Solid, composition base	10	100	35	1.00
197688	8203	Slotted, composition base	10	100	35	1.00

Holes for supporting screws are spaced 1 1/2 inches on centers. Outside diameter of base, 2 1/4 inches.

Double-pole, 10 Amperes, 250 Volts

197689	8112	Solid, porcelain base	10	100	40	1.10
197690	8162	Slotted, porcelain base	10	100	40	1.10
197691	8102	Solid, composition base	10	100	40	1.20
197692	8152	Slotted, composition base	10	100	40	1.20

Holes for supporting screws are spaced 1 3/4 inches on centers.

Outside diameter of base, 2 5/8 inches.



## HUBBELL TOGGLE FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
WITH ADJUSTABLE ALIGNING PLATES—SCHEDULE F

No. 8122

## SWITCHES FOR PLATES WITH SCREW HOLES

These flush switches are equipped with adjustable lugs, by means of which the switch can be placed flush with the wall line without the use of washers or other expedients. The No. 8121 line should be used with either No. 8291 standard or No. 8221 small style of plate, having holes for screws and with center ring permanently attached, there being no thread on center post of switch mechanism for separate finishing ring.

Trade No.	Mfrs. No.	Description	AMPERES		Car- ton	Std. Wt. Lbs.	Pkg. Pcs.
			125 V.	250 V.			
197641	8121	Single-pole.....	10	5	10	50	25
197642	8122	Double-pole.....	10	1	10	10	8
197643	8132	Double-pole.....	20	20	10	10	8
197644	8123	Three-way.....	10	5	10	30	15
197645	8124	Four-way.....	10	5	10	10	8

No. 8362  
with Oval Plate

## SWITCHES FOR SCREWLESS PLATES

No. 8361 type switch is provided with winged sub-plate which serves to hold the switch on the same vertical plane as the plaster line and prevent small rectangular plate No. 8211 and oval plate No. 8231 from turning the threaded center post of switch. These plates are furnished with separate threaded holding collars. They are also equipped with screw holes so that No. 8291 standard plate,  $2\frac{3}{4} \times 4\frac{1}{2}$  inches may be screwed on if desired, which event, the collar becomes a finishing ring only.

197646	8361	Single-pole.....	10	5	10	50	25
197647	8362	Double-pole.....	10	10	10	10	8
197648	8363	Three-way.....	10	5	10	30	15
197649	8364	Four-way.....	10	5	10	10	5

## When used in Gangs

No. 8371 type switch is the same as No. 8361 shown above, except that they are provided with narrow sub-plates for mounting in gangs.

197650	8371	Single-pole.....	10	5	10	50	25
197651	8372	Double-pole.....	10	10	10	10	8
197652	8373	Three-way.....	10	5	10	30	15
197653	8374	Four-way.....	10	5	10	10	5

Supporting screw holes on switches  $3\frac{2}{3}$  inches on centers.



No. 8362

## BRASS FLUSH PLATES

## Standard Size

WITH SCREW HOLES		WITHOUT SCREW HOLES		Description	Plates Dimens. In.	Car- ton	Std. Wt. Lbs.		Pkg. Pcs.
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.				Pkg. Std.	Pkg. Pcs.	
197654	8291	197658	8281	Single plate.....	$2\frac{3}{4} \times 4\frac{1}{2}$	10	*	25	80
197655	8292	197659	8282	2-gang plate.....	$4\frac{9}{16} \times 4\frac{1}{2}$	10	*	22	
197656	8293	197660	8283	3-gang plate.....	$6\frac{3}{8} \times 4\frac{1}{2}$	1	*	20	1
197657	8294	197661	8284	4-gang plate.....	$8\frac{1}{2} \times 4\frac{1}{2}$	1	*	20	1

## Oval Bronze Plate without Screw Holes

197670	8231	Single plate.....	$2\frac{3}{4} \times 4\frac{1}{2}$	10	*	35
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Small threaded brass finishing ring packed with plate or equivalent.  
\*Standard package consists of 50 single plates.

Standard finish for switch plates is brush brass which will be furnished on all orders unless otherwise specified.



No. 8372



## BRYANT NEW WRINKLE LINE

NATIONAL ELECTRICAL CODE STANDARD

All of these NEW WRINKLE Bodies Will Fit All of the NEW WRINKLE Caps and Bases on the  
Following Pages  
SCHEDULE B2

<p><b>No. 13</b> Keyless Socket 60 Watts, 250 Volts</p>  <p>Trade No. 100719 Price Each \$0.23 Std. Pkg. 500 Carton 25</p>	<p><b>No. 32</b> Keyless Socket With Spartan Outlet 660 Watts, 250 Volts</p>  <p>Trade No. 111600 Price Each \$0.48 Std. Pkg. 50 Carton 10</p>	<p><b>No. 10</b> S. P. Key Socket 250 Watts, 250 Volts</p>  <p>Trade No. 100716 Price Each \$0.26 Std. Pkg. 500 Carton 25</p>	<p><b>No. 11</b> D. P. Key Socket 250 Watts, 250 Volts</p>  <p>Trade No. 100717 Price Each \$0.26 Std. Pkg. 500 Carton 25</p>
<p><b>No. 12</b> Q. T. Key Socket 660 Watts, 250 Volts</p>  <p>Trade No. 100718 Price Each \$0.29 Std. Pkg. 500 Carton 25</p>	<p><b>No. 31</b> Q. T. Key Socket With Spartan Outlet 660 Watts, 250 Volts</p>  <p>Trade No. 111601 Price Each \$0.51 Std. Pkg. 50 Carton 10</p>	<p><b>No. 34</b> Push Socket 660 Watts, 250 Volts</p>  <p>Trade No. 111604 Price Each \$0.35 Std. Pkg. 500 Carton 25</p>	<p><b>No. 35</b> High Capacity Pull Socket 660 Watts, 250 Volts</p>  <p>Trade No. 111602 Price Each \$0.59 Std. Pkg. 250 Carton 25</p>
<p><b>No. 15</b> Pull Socket 250 Watts, 250 Volts</p>  <p>Trade No. 100721 Price Each \$0.53 Std. Pkg. 250 Carton 25</p>	<p><b>No. 33</b> Pull Socket With Spartan Outlet 660 Watts, 250 Volts</p>  <p>Trade No. 111603 Price Each \$0.78 Std. Pkg. 50 Carton 10</p>	<p><b>No. 16</b> Twin Pull Socket Both Outlets Operate On an Off Simultaneously 250 Watts, 250 Volts</p>  <p>Trade No. 100722 Price Each \$1.08 Std. Pkg. 20 Carton 10</p>	<p><b>No. 17</b> Twin Pull Socket, Side Outlet On All the Time, Top Outlet On and Off 250 W. 250 V. Top Outlet 660 W. 250 V. Side Outlet</p>  <p>Trade No. 100723 Price Each \$1.08 Std. Pkg. 20 Carton 10</p>

Standard finish is brush brass, which will be shipped when no finish is specified.



BRYANT NEW WRINKLE LINE  
NATIONAL ELECTRICAL CODE STANDARDAll of these NEW WRINKLE Bodies Will Fit All of the NEW WRINKLE Caps and Bases on the  
Following Pages

## SCHEDULE H2

SCHEDULE H2

No. 29

Spartan Plug  
Receptacle  
10 Amperes,  
250 Volts

Trade No.	Price Each
105804	\$0.38
Carton	Std. Pkg.
10	20

No. 18

Key Wall Switch  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
100734	\$0.26
Carton	Std. Pkg.
10	50

No. 26

Rosette  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
100742	\$0.13
Carton	Std. Pkg.
10	50

No. 22

Key Candle Switch  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
100738	\$0.26
Carton	Std. Pkg.
10	50

No. 24

Pull Candle Switch  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
100740	\$0.53
Carton	Std. Pkg.
10	50

Pull Wall Switch

No. 19

3 A., 125 V.  
1 A., 250 V.

Trade No.	Mfrs. No.
100735	19
105806	49

Carton  
10

No. 49

6 A., 125 V.  
3 A., 250 V.

Std.  
Pkg.  
50

No. 25

Pull Switch Rosette  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
100741	\$0.53
Carton	Std. Pkg.
10	100

No. 20

S. P. Pull  
Ceiling Switch  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
100736	\$0.53
Carton	Std. Pkg.
10	100

No. 27

Electrolux Pull  
Ceiling Switch  
Operating 1-2-1 & 2 Off  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
121065	\$0.83
Carton	Std. Pkg.
10	50

No. 21

S. P. Pull  
Fixture Switch  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
100737	\$0.68
Carton	Std. Pkg.
10	50

No. 28

Electrolux Pull  
Fixture Switch  
Operating 1-2-1  
& 2-Off  
3 Amperes, 125 Volts  
1 Ampere, 250 Volts

Trade No.	Price Each
121171	\$0.98
Carton	Std. Pkg.
10	50

Standard finish is brush brass, which will be shipped when no finish is specified.






















## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

1 of These NEW WRINKLE Caps Will Fit All of the NEW WRINKLE Bodies on the Preceding Pages

#### SCHEDULE B2

<b>No. AA</b> $\frac{1}{4}$ -in. Female Socket Cap  Trade No. 100753 Price Each \$0.07 Std. Pkg. 500 Carton 25	<b>No. AB</b> $\frac{1}{4}$ -in. Female Socket Cap  Trade No. 100754 Price Each \$0.16 Std. Pkg. 100 Carton 25	<b>No. AC</b> $\frac{3}{8}$ -in. Female Socket Cap  Trade No. 100755 Price Each \$0.13 Std. Pkg. 250 Carton 25	<b>No. AD</b> $\frac{1}{2}$ -in. Female Socket Cap  Trade No. 100756 Price Each \$0.19 Std. Pkg. 50 Carton 25	<b>No. AE</b> $\frac{1}{4}$ -in. Male Socket Cap  Trade No. 100757 Price Each \$0.07 Std. Pkg. 100 Carton 25
<b>No. AF</b> $\frac{1}{4}$ -in. Male Socket Cap  Trade No. 100758 Price Each \$0.16 Std. Pkg. 50 Carton 25	<b>No. AG</b> $\frac{3}{8}$ -in. Male Socket Cap  Trade No. 100759 Price Each \$0.16 Std. Pkg. 100 Carton 25	<b>No. AH</b> $\frac{1}{2}$ -in. Male Socket Cap  Trade No. 100760 Price Each \$0.22 Std. Pkg. 50 Carton 25	<b>No. AK</b> $\frac{1}{8}$ -in. Female Fix- ture Socket Cap  Trade No. 100761 Price Each \$0.13 Std. Pkg. 100 Carton 25	<b>No. AL</b> $\frac{1}{4}$ -in. Female Fix- ture Socket Cap  Trade No. 100762 Price Each \$0.16 Std. Pkg. 100 Carton 25
<b>No. AM</b> $\frac{1}{4}$ -in. Female Angle Socket Cap  Trade No. 100763 Price Each \$0.12 Std. Pkg. 100 Carton 25	<b>No. AN</b> $\frac{1}{4}$ -in. Female Angle Socket Cap  Trade No. 100764 Price Each \$0.21 Std. Pkg. 50 Carton 25	<b>No. AP</b> $\frac{3}{8}$ -in. Female Angle Socket Cap  Trade No. 100765 Price Each \$0.18 Std. Pkg. 50 Carton 25	<b>No. AR</b> $\frac{1}{8}$ -in. Female Angle Fixture Socket Cap  Trade No. 100766 Price Each \$0.18 Std. Pkg. 50 Carton 25	<b>No. AS</b> $\frac{1}{4}$ -in. Female Angle Fixture Socket Cap  Trade No. 100767 Price Each \$0.21 Std. Pkg. 50 Carton 25
<b>No. AT</b> Pendent Socket Cap  Trade No. 100768 Price Each \$0.07 Std. Pkg. 500 Carton 25	<b>No. AU</b> Strain Relief Socket Cap $\frac{1}{4}$ -in. Hole  Trade No. 100769 Price Each \$0.07 Std. Pkg. 500 Carton 25	<b>No. CB</b> Strain Relief Socket Cap $\frac{1}{2}$ -in. Hole  Trade No. 100771 Price Each \$0.07 Std. Pkg. 100 Carton 25	<b>No. AV</b> Attachment Plug  Trade No. 100770 Price Each \$0.27 Std. Pkg. 50 Carton 10	

The sale of New Wrinkle Interchangeable Devices as individual parts eliminates the labor of taking complete articles apart to interchange them. This increases the efficiency of the line, at the same time reducing the stock investment. Standard finish is brush brass, which will be tipped when no finish is specified.



## BRYANT NEW WRINKLE LINE

NATIONAL ELECTRICAL CODE STANDARD

All of These NEW WRINKLE Bases Will Fit All of the NEW WRINKLE Bodies on the Preceding Pages

## SCHEDULE B2

<p><b>No. AW</b> Cleat Socket Base</p>  <p>Trade No. 100781 Price Each \$0.23 Std. Pkg. Carton 250</p>	<p><b>No. AX</b> Slotted Socket Base</p>  <p>Trade No. 100782 Price Each \$0.18 Std. Pkg. Carton 250</p>	<p><b>No. AY</b> Small Concealed Socket Base</p>  <p>Trade No. 100783 Price Each \$0.18 Std. Pkg. Carton 250</p>	<p><b>No. AZ</b> Large Concealed Socket Base</p>  <p>Trade No. 100784 Price Each \$0.23 Std. Pkg. Carton 100</p>
<p><b>No. BA</b> Angle Concealed Socket Base</p>  <p>Trade No. 100785 Price Each \$0.23 Std. Pkg. Carton 100</p>	<p><b>No. BB</b> Wood Molding Socket Base</p>  <p>Trade No. 100786 Price Each \$0.18 Std. Pkg. Carton 100</p>	<p><b>No. BW</b> <math>\frac{1}{2}</math> and <math>\frac{3}{4}</math>-inch Taplet Socket Base</p>  <p>Trade No. 100813 Price Each \$0.23 Std. Pkg. Carton 100</p>	<p><b>No. BC</b> <math>\frac{1}{4}</math>-inch Condulet Socket Base</p>  <p>Trade No. 100787 Price Each \$0.25 Std. Pkg. Carton 100</p>
<p><b>No. BX</b> <math>\frac{3}{4}</math>-inch Condulet Socket Base</p>  <p>Trade No. 100814 Price Each \$0.23 Std. Pkg. Carton 100</p>	<p><b>No. BD</b> One-way National Socket Base</p>  <p>Trade No. 100788 Price Each \$0.18 Std. Pkg. Carton 100</p>	<p><b>No. BE</b> Two-way National Socket Base</p>  <p>Trade No. 100789 Price Each \$0.18 Std. Pkg. Carton 100</p>	<p><b>No. BH</b> Small Covered Socket Base</p>  <p>Trade No. 100792 Price Each \$0.28 Std. Pkg. Carton 250</p>

The sale of New Wrinkle Interchangeable Devices as individual parts eliminates the labor of taking complete articles apart to interchange them. This increases the efficiency of the line at the same time reducing the stock investment. Standard finish is brush brass, which will be shipped when no finish is specified.



# BRYANT NEW WRINKLE LINE

NATIONAL ELECTRICAL CODE STANDARD

of These NEW WRINKLE Bases Will Fit All of the NEW WRINKLE Bodies on the Preceding Pages  
SCHEDULE B2

**No. BK**  
Large Covered Socket Base



Trade No.	Price Each
100803	\$0.37
Carton	Std. Pkg.
10	100

**No. BL**  
3 1/4-inch Box Socket Base



Trade No.	Price Each
100804	\$0.37
Carton	Std. Pkg.
10	100

**No. BM**  
4-inch Box Socket Base



Trade No.	Price Each
100805	\$0.67
Carton	Std. Pkg.
5	100

**No. BR**  
Concealed Rosette Socket Base



Trade No.	Price Each
100808	\$0.49
Carton	Std. Pkg.
10	50

**No. BS**  
Cleat Rosette Socket Base



Trade No.	Price Each
100809	\$0.49
Carton	Std. Pkg.
10	50

**No. BT**  
Two-wire Molding Rosette  
Socket Base



Trade No.	Price Each
100810	\$0.49
Carton	Std. Pkg.
10	50

**No. CE**  
Type 4400 Adaptibox  
Socket Base



Trade No.	Price Each
100717	\$0.23
Carton	Std. Pkg.
10	100

**No. BV**  
Combination Rosette  
Socket Base



Trade No.	Price Each
100812	\$0.49
Carton	Std. Pkg.
10	50

**No. BY**  
Cleat Base With  
Covered Terminals



Trade No.	Price Each
100815	\$0.36
Carton	Std. Pkg.
5	100

**No. BZ**  
Canopy Tap Base



Trade No.	Price Each
100816	\$0.22
Carton	Std. Pkg.
10	20

Standard finish is brush brass, which will be shipped when no finish is specified.



## BRYANT NEW WRINKLE LINE

NATIONAL ELECTRICAL CODE STANDARD

## SCHEDULE B2

<p>No. 43</p> <p>Keyless Lock Socket 660 Watts, 250 Volts</p>  <p>Trade No. 195287</p> <p>Price Each \$0.50</p> <p>Std. Pkg. 100</p> <p>Carton 25</p>	<p>No. 40</p> <p>S. P. Key Lock Socket 250 Watts, 250 Volts</p>  <p>Trade No. 195288</p> <p>Price Each \$0.53</p> <p>Std. Pkg. 100</p> <p>Carton 25</p>	<p>No. 41</p> <p>D. P. Key Lock Socket 250 Watts, 250 Volts</p>  <p>Trade No. 195289</p> <p>Price Each \$0.53</p> <p>Std. Pkg. 100</p> <p>Carton 25</p>
<p>No. 42</p> <p>Q. T. Key Lock Socket 660 Watts, 250 Volts</p>  <p>Trade No. 195290</p> <p>Price Each \$0.56</p> <p>Std. Pkg. 100</p> <p>Carton 25</p>	<p>No. 44</p> <p>Push Lock Socket 660 Watts, 250 Volts</p>  <p>Trade No. 195291</p> <p>Price Each \$0.62</p> <p>Std. Pkg. 100</p> <p>Carton 25</p>	<p>No. 45</p> <p>Pull Lock Socket 250 Watts, 250 Volts</p>  <p>Trade No. 195292</p> <p>Price Each \$0.80</p> <p>Std. Pkg. 100</p> <p>Carton 25</p>
<p>No. CF</p> <p>Base for 1/2-inch Rectangular Unilets</p>  <p>Trade No. 195293</p> <p>Price Each \$0.22</p> <p>Std. Pkg. 100</p> <p>Carton 10</p>		<p>No. CG</p> <p>Base for 3/4-inch Rectangular Unilets</p>  <p>Trade No. 195294</p> <p>Price Each \$0.23</p> <p>Std. Pkg. 100</p> <p>Carton 10</p>








































































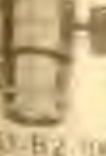








Standard finish is brush brass. For special finishes see another page.



## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the es, caps and bases are packed and shipped separately. Combinations will be shipped mbled when so specified, without extra charge, but such orders will be subject to the delays h are usual in connection with goods that are not carried in stock.

	No. AA 1/2 in. Female Cap	No. AB 1/2 in. Female Cap	No. AC 1/2 in. Female Cap	No. AD 1/2 in. Female Cap	No. AE 1/2 in. Male Cap	No. AF 1/2 in. Male Cap	No. AG 1/2 in. Male Cap	No. AH 1/2 in. Male Cap
								
	\$0.07-B2-500 Carton 25	\$0.16-B2-100 Carton 25	\$0.13-B2-250 Carton 25	\$0.19-B2-50 Carton 25	\$0.07-B2-100 Carton 25	\$0.16-B2-50 Carton 25	\$0.16-B2-100 Carton 25	\$0.22-B2-50 Carton 25
No. 13 1/2 in. Body Rings 250 Vols	No. AA-13	No. AB-13	No. AC-13	No. AD-13	No. AE-13	No. AF-13	No. AG-13	No. AH-13
								
23-B2-500 Carton 25	\$0.36-B2-500	\$0.39-B2-250	\$0.36-B2-250	\$0.42-B2-250	\$0.30-B2-500	\$0.39-B2-250	\$0.39-B2-250	\$0.45-B2-250
No. 10 1/2 in. Body Rings 250 Vols	No. AA-10	No. AB-10	No. AC-10	No. AD-10	No. AE-10	No. AF-10	No. AG-10	No. AH-10
								
26-B2-500 Carton 25	\$0.33-B2-500	\$0.42-B2-250	\$0.39-B2-250	\$0.45-B2-250	\$0.33-B2-500	\$0.42-B2-250	\$0.42-B2-250	\$0.48-B2-250
No. 11 1/2 in. Body Rings 250 Vols	No. AA-11	No. AB-11	No. AC-11	No. AD-11	No. AE-11	No. AF-11	No. AG-11	No. AH-11
								
26-B2-500 Carton 25	\$0.33-B2-500	\$0.42-B2-250	\$0.39-B2-250	\$0.45-B2-250	\$0.33-B2-500	\$0.42-B2-250	\$0.42-B2-250	\$0.48-B2-250
No. 12 1/2 in. Body Rings 250 Vols	No. AA-12	No. AB-12	No. AC-12	No. AD-12	No. AE-12	No. AF-12	No. AG-12	No. AH-12
								
29-B2-500 Carton 25	\$0.36-B2-500	\$0.45-B2-250	\$0.42-B2-250	\$0.48-B2-250	\$0.36-B2-500	\$0.45-B2-250	\$0.45-B2-250	\$0.51-B2-250
No. 31 1/2 in. Body Rings 250 Vols	No. AA-31	No. AB-31	No. AC-31	No. AD-31	No. AE-31	No. AF-31	No. AG-31	No. AH-31
								
126-B2-500 Carton 25	\$0.42-B2-500	\$0.51-B2-250	\$0.48-B2-250	\$0.54-B2-250	\$0.42-B2-500	\$0.51-B2-250	\$0.51-B2-250	\$0.57-B2-250
No. 43 1/2 in. Body Rings 250 Vols	No. AA-43	No. AB-43	No. AC-43	No. AD-43	No. AE-43	No. AF-43	No. AG-43	No. AH-43
								
50-B2-100 Carton 25	\$0.57-B2-100	\$0.66-B2-100	\$0.63-B2-100	\$0.69-B2-100	\$0.57-B2-100	\$0.66-B2-100	\$0.66-B2-100	\$0.72-B2-100
No. 40 1/2 in. Body Rings 250 Vols	No. AA-40	No. AB-40	No. AC-40	No. AD-40	No. AE-40	No. AF-40	No. AG-40	No. AH-40
								
53-B2-100 Carton 25	\$0.60-B2-100	\$0.69-B2-100	\$0.66-B2-100	\$0.72-B2-100	\$0.60-B2-100	\$0.69-B2-100	\$0.69-B2-100	\$0.75-B2-100
No. 41 1/2 in. Body Rings 250 Vols	No. AA-41	No. AB-41	No. AC-41	No. AD-41	No. AE-41	No. AF-41	No. AG-41	No. AH-41
								
53-B2-100 Carton 25	\$0.60-B2-100	\$0.69-B2-100	\$0.66-B2-100	\$0.72-B2-100	\$0.60-B2-100	\$0.69-B2-100	\$0.69-B2-100	\$0.75-B2-100

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make the standard package quantity, which will be the same as though all were standard finish.





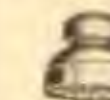
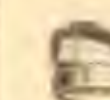
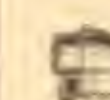
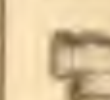








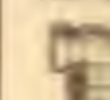






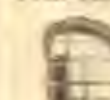
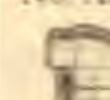
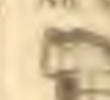
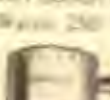



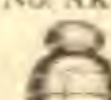
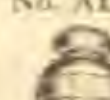

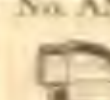
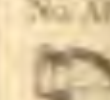
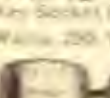
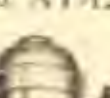



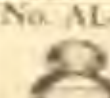
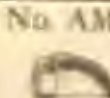
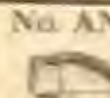
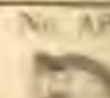
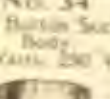
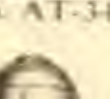

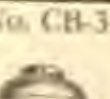
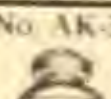
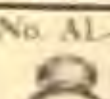
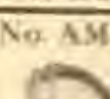
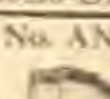
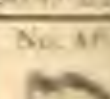
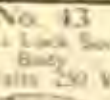
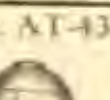
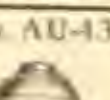
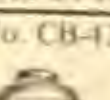
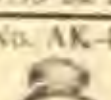
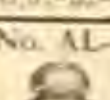
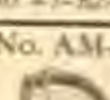
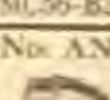
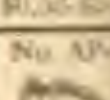
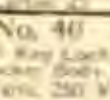
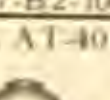
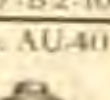
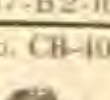
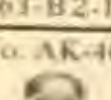
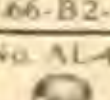
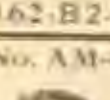
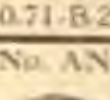
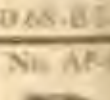
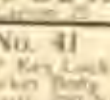
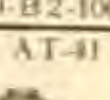
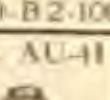
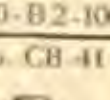
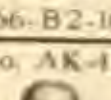
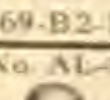
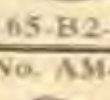
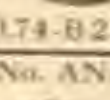
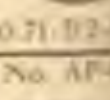
For more complete listings of bodies and caps, including ratings, see previous pages.



BRYANT NEW WRINKLE LINE  
NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. AT Pyrex. Cap 1/2" Hole	No. AU Strain Relief Cap 1/2" Hole	No. CB Strain Relief Cap 1/2" Hole	No. AK 1/2" Port Cap	No. AL 1/2" Port Cap	No. AM 1/2" Port Cap	No. AN 1/2" Port Cap	No. AP 1/2" Port Cap
								
	\$0.07-B2-500 Carton 25	\$0.07-B2-500 Carton 25	\$0.07-B2-100 Carton 25	\$0.13-B2-100 Carton 25	\$0.16-B2-100 Carton 25	\$0.12-B2-100 Carton 25	\$0.21-B2-50 Carton 25	\$0.18-B2-50 Carton 25
No. 13 1/2" Key Socket Body 500 Watts, 250 Volts	No. AT-13	No. AU-13	No. CB-13	No. AK-13	No. AL-13	No. AM-13	No. AN-13	No. AP-13
								
\$0.23-B2-500 Carton 25	\$0.30-B2-500	\$0.30-B2-500	\$0.30-B2-100	\$0.36-B2-250	\$0.39-B2-250	\$0.35-B2-100	\$0.44-B2-100	\$0.41-B2-100
No. 10 3/4" Key Socket Body 250 Watts, 250 Volts	No. AT-10	No. AU-10	No. CB-10	No. AK-10	No. AL-10	No. AM-10	No. AN-10	No. AP-10
								
\$0.26-B2-500 Carton 25	\$0.33-B2-500	\$0.33-B2-500	\$0.33-B2-100	\$0.39-B2-250	\$0.42-B2-250	\$0.38-B2-100	\$0.47-B2-100	\$0.44-B2-100
No. 11 3/4" Key Socket Body 250 Watts, 250 Volts	No. AT-11	No. AU-11	No. CB-11	No. AK-11	No. AL-11	No. AM-11	No. AN-11	No. AP-11
								
\$0.26-B2-500 Carton 25	\$0.33-B2-500	\$0.33-B2-500	\$0.33-B2-100	\$0.39-B2-250	\$0.42-B2-250	\$0.38-B2-100	\$0.47-B2-100	\$0.44-B2-100
No. 12 3/4" Key Socket Body 250 Watts, 250 Volts	No. AT-12	No. AU-12	No. CB-12	No. AK-12	No. AL-12	No. AM-12	No. AN-12	No. AP-12
								
\$0.29-B2-500 Carton 25	\$0.36-B2-500	\$0.36-B2-500	\$0.36-B2-100	\$0.42-B2-250	\$0.45-B2-250	\$0.41-B2-100	\$0.50-B2-100	\$0.47-B2-100
No. 34 1/2" Key Socket Body 500 Watts, 250 Volts	No. AT-34	No. AU-34	No. CB-34	No. AK-34	No. AL-34	No. AM-34	No. AN-34	No. AP-34
								
\$0.35-B2-500 Carton 25	\$0.42-B2-500	\$0.42-B2-500	\$0.42-B2-100	\$0.48-B2-250	\$0.51-B2-250	\$0.47-B2-100	\$0.56-B2-100	\$0.53-B2-100
No. 43 1/2" Key Lock Socket Body 500 Watts, 250 Volts	No. AT-43	No. AU-43	No. CB-43	No. AK-43	No. AL-43	No. AM-43	No. AN-43	No. AP-43
								
\$0.50-B2-100 Carton 25	\$0.57-B2-100	\$0.57-B2-100	\$0.57-B2-100	\$0.61-B2-100	\$0.66-B2-100	\$0.62-B2-100	\$0.71-B2-100	\$0.68-B2-100
No. 40 3/4" Key Lock Socket Body 250 Watts, 250 Volts	No. AT-40	No. AU-40	No. CB-40	No. AK-40	No. AL-40	No. AM-40	No. AN-40	No. AP-40
								
\$0.53-B2-100 Carton 25	\$0.60-B2-100	\$0.60-B2-100	\$0.60-B2-100	\$0.66-B2-100	\$0.69-B2-100	\$0.65-B2-100	\$0.74-B2-100	\$0.71-B2-100
No. 41 3/4" Key Lock Socket Body 250 Watts, 250 Volts	No. AT-41	No. AU-41	No. CB-41	No. AK-41	No. AL-41	No. AM-41	No. AN-41	No. AP-41
								
\$0.53-B2-100 Carton 25	\$0.60-B2-100	\$0.60-B2-100	\$0.60-B2-100	\$0.66-B2-100	\$0.69-B2-100	\$0.65-B2-100	\$0.74-B2-100	\$0.71-B2-100

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.










# BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

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	No. AB New Angle Bracket Cap	No. AS New Angle Bracket Cap	No. BH Small Conical Base	No. BL Large Conical Base	No. BL Large Conical Base	No. BN 2 1/2" Conical Base	No. BM 2 1/2" Conical Base
							
	\$0.18 B2-50 Cap 25	\$0.21 B2-50 Cap 25	\$0.28 B2-250 Cap 25	\$0.37 B2-100 Cap 25	\$0.37 B2-100 Cap 25	\$0.47 B2-50 Cap 25	\$0.67 B2-100 Cap 25
No. 13 2 1/2" Conical Base Cap 25	No. AR-13 \$0.41 B2-100	No. AS-13 \$0.44 B2-100	No. BH-13 \$0.51 B2-250	No. BL-13 \$0.60 B2-100	No. BL-13 \$0.60 B2-100	No. BN-13 \$0.70 B2-100	No. BM-13 \$0.90 B2-100
No. 14 2 1/2" Conical Base Cap 25	No. AR-14 \$0.44 B2-100	No. AS-14 \$0.47 B2-100	No. BH-14 \$0.54 B2-250	No. BL-14 \$0.63 B2-100	No. BL-14 \$0.63 B2-100	No. BN-14 \$0.73 B2-100	No. BM-14 \$0.93 B2-100
No. 15 2 1/2" Conical Base Cap 25	No. AR-15 \$0.44 B2-100	No. AS-15 \$0.47 B2-100	No. BH-15 \$0.54 B2-250	No. BL-15 \$0.63 B2-100	No. BL-15 \$0.63 B2-100	No. BN-15 \$0.73 B2-100	No. BM-15 \$0.93 B2-100
No. 16 2 1/2" Conical Base Cap 25	No. AR-16 \$0.47 B2-100	No. AS-16 \$0.50 B2-100	No. BH-16 \$0.57 B2-250	No. BL-16 \$0.66 B2-100	No. BL-16 \$0.66 B2-100	No. BN-16 \$0.76 B2-100	No. BM-16 \$0.96 B2-100
No. 17 2 1/2" Conical Base Cap 25	No. AR-17 \$0.47 B2-100	No. AS-17 \$0.50 B2-100	No. BH-17 \$0.57 B2-250	No. BL-17 \$0.66 B2-100	No. BL-17 \$0.66 B2-100	No. BN-17 \$0.76 B2-100	No. BM-17 \$0.96 B2-100
No. 18 2 1/2" Conical Base Cap 25	No. AR-18 \$0.47 B2-100	No. AS-18 \$0.50 B2-100	No. BH-18 \$0.57 B2-250	No. BL-18 \$0.66 B2-100	No. BL-18 \$0.66 B2-100	No. BN-18 \$0.76 B2-100	No. BM-18 \$0.96 B2-100
No. 19 2 1/2" Conical Base Cap 25	No. AR-19 \$0.47 B2-100	No. AS-19 \$0.50 B2-100	No. BH-19 \$0.57 B2-250	No. BL-19 \$0.66 B2-100	No. BL-19 \$0.66 B2-100	No. BN-19 \$0.76 B2-100	No. BM-19 \$0.96 B2-100
No. 20 2 1/2" Conical Base Cap 25	No. AR-20 \$0.47 B2-100	No. AS-20 \$0.50 B2-100	No. BH-20 \$0.57 B2-250	No. BL-20 \$0.66 B2-100	No. BL-20 \$0.66 B2-100	No. BN-20 \$0.76 B2-100	No. BM-20 \$0.96 B2-100
No. 21 2 1/2" Conical Base Cap 25	No. AR-21 \$0.47 B2-100	No. AS-21 \$0.50 B2-100	No. BH-21 \$0.57 B2-250	No. BL-21 \$0.66 B2-100	No. BL-21 \$0.66 B2-100	No. BN-21 \$0.76 B2-100	No. BM-21 \$0.96 B2-100
No. 22 2 1/2" Conical Base Cap 25	No. AR-22 \$0.47 B2-100	No. AS-22 \$0.50 B2-100	No. BH-22 \$0.57 B2-250	No. BL-22 \$0.66 B2-100	No. BL-22 \$0.66 B2-100	No. BN-22 \$0.76 B2-100	No. BM-22 \$0.96 B2-100
No. 23 2 1/2" Conical Base Cap 25	No. AR-23 \$0.47 B2-100	No. AS-23 \$0.50 B2-100	No. BH-23 \$0.57 B2-250	No. BL-23 \$0.66 B2-100	No. BL-23 \$0.66 B2-100	No. BN-23 \$0.76 B2-100	No. BM-23 \$0.96 B2-100
No. 24 2 1/2" Conical Base Cap 25	No. AR-24 \$0.47 B2-100	No. AS-24 \$0.50 B2-100	No. BH-24 \$0.57 B2-250	No. BL-24 \$0.66 B2-100	No. BL-24 \$0.66 B2-100	No. BN-24 \$0.76 B2-100	No. BM-24 \$0.96 B2-100
No. 25 2 1/2" Conical Base Cap 25	No. AR-25 \$0.47 B2-100	No. AS-25 \$0.50 B2-100	No. BH-25 \$0.57 B2-250	No. BL-25 \$0.66 B2-100	No. BL-25 \$0.66 B2-100	No. BN-25 \$0.76 B2-100	No. BM-25 \$0.96 B2-100
No. 26 2 1/2" Conical Base Cap 25	No. AR-26 \$0.47 B2-100	No. AS-26 \$0.50 B2-100	No. BH-26 \$0.57 B2-250	No. BL-26 \$0.66 B2-100	No. BL-26 \$0.66 B2-100	No. BN-26 \$0.76 B2-100	No. BM-26 \$0.96 B2-100
No. 27 2 1/2" Conical Base Cap 25	No. AR-27 \$0.47 B2-100	No. AS-27 \$0.50 B2-100	No. BH-27 \$0.57 B2-250	No. BL-27 \$0.66 B2-100	No. BL-27 \$0.66 B2-100	No. BN-27 \$0.76 B2-100	No. BM-27 \$0.96 B2-100
No. 28 2 1/2" Conical Base Cap 25	No. AR-28 \$0.47 B2-100	No. AS-28 \$0.50 B2-100	No. BH-28 \$0.57 B2-250	No. BL-28 \$0.66 B2-100	No. BL-28 \$0.66 B2-100	No. BN-28 \$0.76 B2-100	No. BM-28 \$0.96 B2-100
No. 29 2 1/2" Conical Base Cap 25	No. AR-29 \$0.47 B2-100	No. AS-29 \$0.50 B2-100	No. BH-29 \$0.57 B2-250	No. BL-29 \$0.66 B2-100	No. BL-29 \$0.66 B2-100	No. BN-29 \$0.76 B2-100	No. BM-29 \$0.96 B2-100
No. 30 2 1/2" Conical Base Cap 25	No. AR-30 \$0.47 B2-100	No. AS-30 \$0.50 B2-100	No. BH-30 \$0.57 B2-250	No. BL-30 \$0.66 B2-100	No. BL-30 \$0.66 B2-100	No. BN-30 \$0.76 B2-100	No. BM-30 \$0.96 B2-100
No. 31 2 1/2" Conical Base Cap 25	No. AR-31 \$0.47 B2-100	No. AS-31 \$0.50 B2-100	No. BH-31 \$0.57 B2-250	No. BL-31 \$0.66 B2-100	No. BL-31 \$0.66 B2-100	No. BN-31 \$0.76 B2-100	No. BM-31 \$0.96 B2-100
No. 32 2 1/2" Conical Base Cap 25	No. AR-32 \$0.47 B2-100	No. AS-32 \$0.50 B2-100	No. BH-32 \$0.57 B2-250	No. BL-32 \$0.66 B2-100	No. BL-32 \$0.66 B2-100	No. BN-32 \$0.76 B2-100	No. BM-32 \$0.96 B2-100
No. 33 2 1/2" Conical Base Cap 25	No. AR-33 \$0.47 B2-100	No. AS-33 \$0.50 B2-100	No. BH-33 \$0.57 B2-250	No. BL-33 \$0.66 B2-100	No. BL-33 \$0.66 B2-100	No. BN-33 \$0.76 B2-100	No. BM-33 \$0.96 B2-100
No. 34 2 1/2" Conical Base Cap 25	No. AR-34 \$0.47 B2-100	No. AS-34 \$0.50 B2-100	No. BH-34 \$0.57 B2-250	No. BL-34 \$0.66 B2-100	No. BL-34 \$0.66 B2-100	No. BN-34 \$0.76 B2-100	No. BM-34 \$0.96 B2-100
No. 35 2 1/2" Conical Base Cap 25	No. AR-35 \$0.47 B2-100	No. AS-35 \$0.50 B2-100	No. BH-35 \$0.57 B2-250	No. BL-35 \$0.66 B2-100	No. BL-35 \$0.66 B2-100	No. BN-35 \$0.76 B2-100	No. BM-35 \$0.96 B2-100
No. 36 2 1/2" Conical Base Cap 25	No. AR-36 \$0.47 B2-100	No. AS-36 \$0.50 B2-100	No. BH-36 \$0.57 B2-250	No. BL-36 \$0.66 B2-100	No. BL-36 \$0.66 B2-100	No. BN-36 \$0.76 B2-100	No. BM-36 \$0.96 B2-100
No. 37 2 1/2" Conical Base Cap 25	No. AR-37 \$0.47 B2-100	No. AS-37 \$0.50 B2-100	No. BH-37 \$0.57 B2-250	No. BL-37 \$0.66 B2-100	No. BL-37 \$0.66 B2-100	No. BN-37 \$0.76 B2-100	No. BM-37 \$0.96 B2-100
No. 38 2 1/2" Conical Base Cap 25	No. AR-38 \$0.47 B2-100	No. AS-38 \$0.50 B2-100	No. BH-38 \$0.57 B2-250	No. BL-38 \$0.66 B2-100	No. BL-38 \$0.66 B2-100	No. BN-38 \$0.76 B2-100	No. BM-38 \$0.96 B2-100
No. 39 2 1/2" Conical Base Cap 25	No. AR-39 \$0.47 B2-100	No. AS-39 \$0.50 B2-100	No. BH-39 \$0.57 B2-250	No. BL-39 \$0.66 B2-100	No. BL-39 \$0.66 B2-100	No. BN-39 \$0.76 B2-100	No. BM-39 \$0.96 B2-100
No. 40 2 1/2" Conical Base Cap 25	No. AR-40 \$0.47 B2-100	No. AS-40 \$0.50 B2-100	No. BH-40 \$0.57 B2-250	No. BL-40 \$0.66 B2-100	No. BL-40 \$0.66 B2-100	No. BN-40 \$0.76 B2-100	No. BM-40 \$0.96 B2-100
No. 41 2 1/2" Conical Base Cap 25	No. AR-41 \$0.47 B2-100	No. AS-41 \$0.50 B2-100	No. BH-41 \$0.57 B2-250	No. BL-41 \$0.66 B2-100	No. BL-41 \$0.66 B2-100	No. BN-41 \$0.76 B2-100	No. BM-41 \$0.96 B2-100
No. 42 2 1/2" Conical Base Cap 25	No. AR-42 \$0.47 B2-100	No. AS-42 \$0.50 B2-100	No. BH-42 \$0.57 B2-250	No. BL-42 \$0.66 B2-100	No. BL-42 \$0.66 B2-100	No. BN-42 \$0.76 B2-100	No. BM-42 \$0.96 B2-100
No. 43 2 1/2" Conical Base Cap 25	No. AR-43 \$0.47 B2-100	No. AS-43 \$0.50 B2-100	No. BH-43 \$0.57 B2-250	No. BL-43 \$0.66 B2-100	No. BL-43 \$0.66 B2-100	No. BN-43 \$0.76 B2-100	No. BM-43 \$0.96 B2-100
No. 44 2 1/2" Conical Base Cap 25	No. AR-44 \$0.47 B2-100	No. AS-44 \$0.50 B2-100	No. BH-44 \$0.57 B2-250	No. BL-44 \$0.66 B2-100	No. BL-44 \$0.66 B2-100	No. BN-44 \$0.76 B2-100	No. BM-44 \$0.96 B2-100
No. 45 2 1/2" Conical Base Cap 25	No. AR-45 \$0.47 B2-100	No. AS-45 \$0.50 B2-100	No. BH-45 \$0.57 B2-250	No. BL-45 \$0.66 B2-100	No. BL-45 \$0.66 B2-100	No. BN-45 \$0.76 B2-100	No. BM-45 \$0.96 B2-100
No. 46 2 1/2" Conical Base Cap 25	No. AR-46 \$0.47 B2-100	No. AS-46 \$0.50 B2-100	No. BH-46 \$0.57 B2-250	No. BL-46 \$0.66 B2-100	No. BL-46 \$0.66 B2-100	No. BN-46 \$0.76 B2-100	No. BM-46 \$0.96 B2-100
No. 47 2 1/2" Conical Base Cap 25	No. AR-47 \$0.47 B2-100	No. AS-47 \$0.50 B2-100	No. BH-47 \$0.57 B2-250	No. BL-47 \$0.66 B2-100	No. BL-47 \$0.66 B2-100	No. BN-47 \$0.76 B2-100	No. BM-47 \$0.96 B2-100
No. 48 2 1/2" Conical Base Cap 25	No. AR-48 \$0.47 B2-100	No. AS-48 \$0.50 B2-100	No. BH-48 \$0.57 B2-250	No. BL-48 \$0.66 B2-100	No. BL-48 \$0.66 B2-100	No. BN-48 \$0.76 B2-100	No. BM-48 \$0.96 B2-100
No. 49 2 1/2" Conical Base Cap 25	No. AR-49 \$0.47 B2-100	No. AS-49 \$0.50 B2-100	No. BH-49 \$0.57 B2-250	No. BL-49 \$0.66 B2-100	No. BL-49 \$0.66 B2-100	No. BN-49 \$0.76 B2-100	No. BM-49 \$0.96 B2-100
No. 50 2 1/2" Conical Base Cap 25	No. AR-50 \$0.47 B2-100	No. AS-50 \$0.50 B2-100	No. BH-50 \$0.57 B2-250	No. BL-50 \$0.66 B2-100	No. BL-50 \$0.66 B2-100	No. BN-50 \$0.76 B2-100	No. BM-50 \$0.96 B2-100

The standard finish of all brass shell devices, unless otherwise noted, is brushed brass, which may be specified when the finish is not specified. Devices unfinished or polished, but not bequeathed, may be specified at same list prices as brushed brass devices.

Standard and special finishes on devices of one catalogue number may be specified to make the standard package quantity, which will be the same as though all were standard finish.








For more complete listings of bodies and caps, including ratings, see previous pages.



## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately. Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. BP 4-in. Pancake Base	No. BZ Canopy Top Base	No. AV Attachment Plug Cap	No. BR Concealed Fusible Romatic Base	No. BS Clear Fusible Romatic Base	No. BT Molding Fusible Romatic Base	No. BV Concealed Fusible Romatic Base
	 \$0.77-B2-50 Carton 5	 \$0.22-B2-20 Carton 10	 \$0.27-B2-50 Carton 10	 \$0.49-B2-50 Carton 10	 \$0.49-B2-50 Carton 10	 \$0.49-B2-50 Carton 10	 \$0.49-B2-50 Carton 10
No. 13 Keyless Socket Body 600 Watts, 250 Volts	No. BP-13 \$1.00-B2-100	No. BZ-13 \$0.45-B2-20	No. AV-13 \$0.50 B2 50	No. BR-13 \$0.72 B2 50	No. BS-13 \$0.72 B2 50	No. BT-13 \$0.72 B2 50	No. BV-13 \$0.72 B2 50
No. 10 S.P. Key Socket Body 250 Watts, 250 Volts	No. BP-10 \$1.03-B2-100	No. BZ-10 \$0.48-B2-20	No. AV-10 \$0.53 B2 50	No. BR-10 \$0.75 B2 100	No. BS-10 \$0.75 B2 100	No. BT-10 \$0.75 B2 100	No. BV-10 \$0.75 B2 100
No. 11 D.P. Key Socket Body 250 Watts, 250 Volts	No. BP-11 \$1.03-B2-100	No. BZ-11 \$0.48-B2-20	No. AV-11 \$0.53 B2 50	No. BR-11 \$0.75 B2 100	No. BS-11 \$0.75 B2 100	No. BT-11 \$0.75 B2 100	No. BV-11 \$0.75 B2 100
No. 12 Q.T. Key Socket Body 600 Watts, 250 Volts	No. BP-12 \$1.06-B2-100	No. BZ-12 \$0.51-B2-20	No. AV-12 \$0.56 B2 50	No. BR-12 \$0.78 B2 100	No. BS-12 \$0.78 B2 100	No. BT-12 \$0.78 B2 100	No. BV-12 \$0.78 B2 100
No. 34 Push Button Socket Body 600 Watts, 250 Volts	No. BP-34 \$1.12-B2-100	No. BZ-34 \$0.57-B2-20	No. AV-34 \$0.62 B2 50	No. BR-34 \$0.84 B2 100	No. BS-34 \$0.84 B2 100	No. BT-34 \$0.84 B2 100	No. BV-34 \$0.84 B2 100
No. 43 Keyless Lock Socket Body 600 Watts, 250 Volts	No. BP-43 \$1.27-B2-100	No. BZ-43 \$0.72-B2-20	No. AV-43 \$0.77 B2 50	No. BR-43 \$0.99 B2 50	No. BS-43 \$0.99 B2 50	No. BT-43 \$0.99 B2 50	No. BV-43 \$0.99 B2 50
No. 40 S.P. Key Lock Socket Body 250 Watts, 250 Volts	No. BP-40 \$1.30-B2-100	No. BZ-40 \$0.75-B2-20	No. AV-40 \$0.80 B2 50	No. BR-40 \$1.02 B2 100	No. BS-40 \$1.02 B2 100	No. BT-40 \$1.02 B2 100	No. BV-40 \$1.02 B2 100
No. 41 D.P. Key Lock Socket Body 250 Watts, 250 Volts	No. BP-41 \$1.30-B2-100	No. BZ-41 \$0.75-B2-20	No. AV-41 \$0.80 B2 50	No. BR-41 \$1.02 B2 100	No. BS-41 \$1.02 B2 100	No. BT-41 \$1.02 B2 100	No. BV-41 \$1.02 B2 100

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Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

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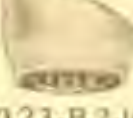

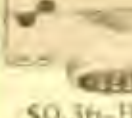
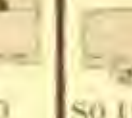
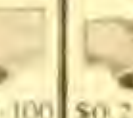


















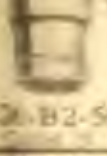




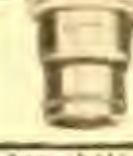


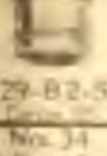
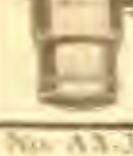

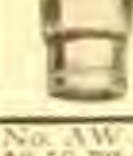
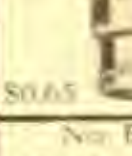


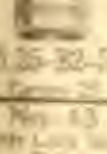
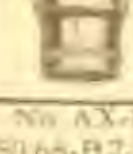

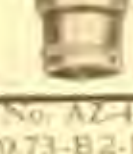

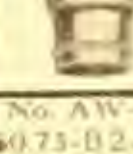
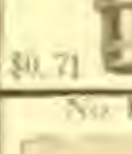


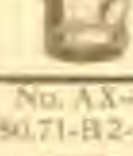
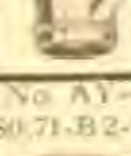
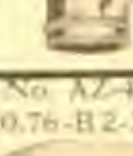
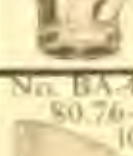
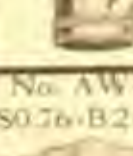
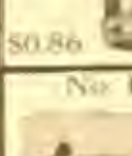
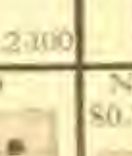

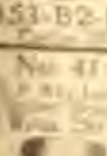

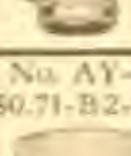
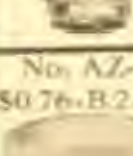
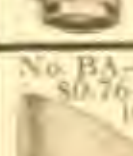
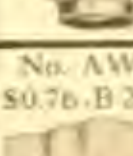
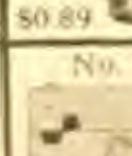
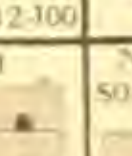
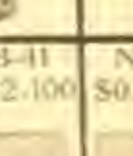
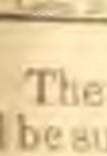
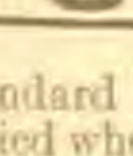
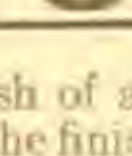
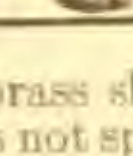
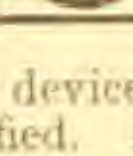
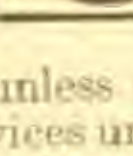
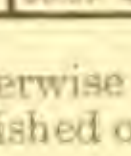
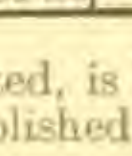
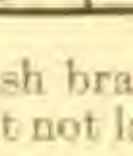


# BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the caps, bases and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but orders will be subject to the delays which are usual in connection with goods that are not in stock.

	No. AX Small Base	No. AY Small Concealed Base	No. AZ Large Concealed Base	No. BA Angle Concealed Base	No. AW Clear Base	No. BY Clear Base with Covered Terminals	No. BB Wood Mounting Base	No. BW Base for "T" and "Y" Terminals
								
	\$0.18-B2-250 Capless 10	\$0.18-B2-250 Capless 10	\$0.23-B2-100 Capless 10	\$0.23-B2-100 Capless 10	\$0.23-B2-250 Capless 10	\$0.36-B2-100 Capless 10	\$0.18-B2-100 Capless 10	\$0.23-B2-100 Capless 10
No. 11 Key Switch Body Watts 250 Volt	No. AX-13 \$0.41-B2-250	No. AY-13 \$0.41-B2-250	No. AZ-13 \$0.46-B2-250	No. BA-13 \$0.46-B2-100	No. AW-13 \$0.46-B2-250	No. BY-13 \$0.59-B2-100	No. BB-13 \$0.41-B2-250	No. BW-13 \$0.46-B2-250
								
\$0.41-B2-500 Capless 10								
No. 10 Key Switch Body Watts 250 Volt	No. AX-10 \$0.44-B2-250	No. AY-10 \$0.44-B2-250	No. AZ-10 \$0.49-B2-250	No. BA-10 \$0.49-B2-100	No. AW-10 \$0.49-B2-250	No. BY-10 \$0.62-B2-100	No. BB-10 \$0.44-B2-250	No. BW-10 \$0.49-B2-250
								
\$0.44-B2-500 Capless 10								
No. 11 Key Switch Body Watts 250 Volt	No. AX-11 \$0.44-B2-250	No. AY-11 \$0.44-B2-250	No. AZ-11 \$0.49-B2-250	No. BA-11 \$0.49-B2-100	No. AW-11 \$0.49-B2-250	No. BY-11 \$0.62-B2-100	No. BB-11 \$0.44-B2-250	No. BW-11 \$0.49-B2-250
								
\$0.44-B2-500 Capless 10								
No. 12 Key Switch Body Watts 250 Volt	No. AX-12 \$0.47-B2-250	No. AY-12 \$0.47-B2-250	No. AZ-12 \$0.52-B2-250	No. BA-12 \$0.52-B2-100	No. AW-12 \$0.52-B2-250	No. BY-12 \$0.65-B2-100	No. BB-12 \$0.47-B2-250	No. BW-12 \$0.52-B2-250
								
\$0.47-B2-500 Capless 10								
No. 14 Key Switch Body Watts 250 Volt	No. AX-14 \$0.53-B2-250	No. AY-14 \$0.53-B2-250	No. AZ-14 \$0.58-B2-250	No. BA-14 \$0.58-B2-100	No. AW-14 \$0.58-B2-250	No. BY-14 \$0.71-B2-100	No. BB-14 \$0.53-B2-250	No. BW-14 \$0.58-B2-250
								
\$0.53-B2-500 Capless 10								
No. 13 Key Switch Body Watts 250 Volt	No. AX-13 \$0.68-B2-100	No. AY-13 \$0.68-B2-100	No. AZ-13 \$0.73-B2-100	No. BA-13 \$0.73-B2-100	No. AW-13 \$0.73-B2-100	No. BY-13 \$0.86-B2-100	No. BB-13 \$0.68-B2-100	No. BW-13 \$0.73-B2-100
								
\$0.68-B2-100 Capless 10								
No. 40 Key Switch Body Watts 250 Volt	No. AX-40 \$0.71-B2-100	No. AY-40 \$0.71-B2-100	No. AZ-40 \$0.76-B2-100	No. BA-40 \$0.76-B2-100	No. AW-40 \$0.76-B2-100	No. BY-40 \$0.89-B2-100	No. BB-40 \$0.71-B2-100	No. BW-40 \$0.76-B2-100
								
\$0.71-B2-100 Capless 10								
No. 41 Key Switch Body Watts 250 Volt	No. AX-41 \$0.71-B2-100	No. AY-41 \$0.71-B2-100	No. AZ-41 \$0.76-B2-100	No. BA-41 \$0.76-B2-100	No. AW-41 \$0.76-B2-100	No. BY-41 \$0.89-B2-100	No. BB-41 \$0.71-B2-100	No. BW-41 \$0.76-B2-100
								
\$0.71-B2-100 Capless 10								

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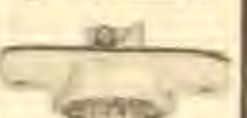
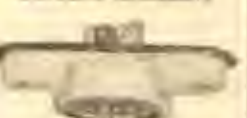
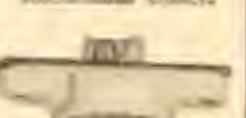
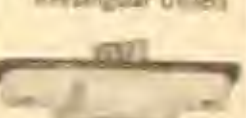
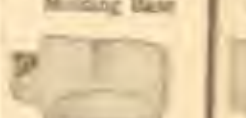
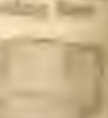
















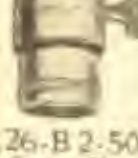
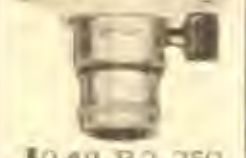






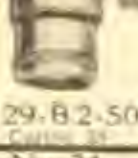
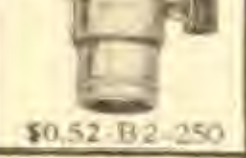
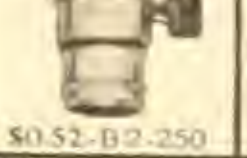


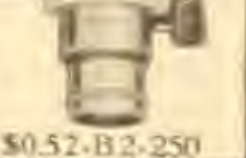



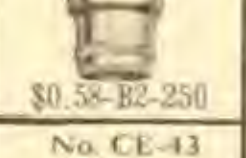
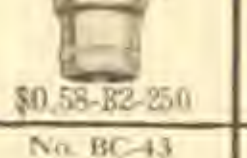
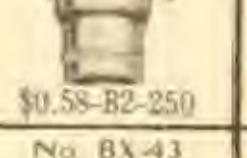
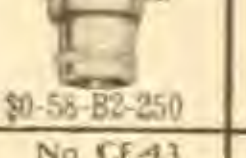
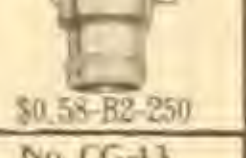
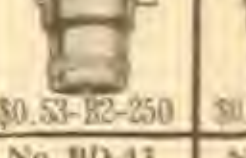
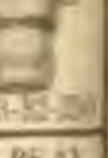
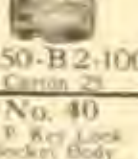
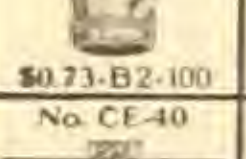
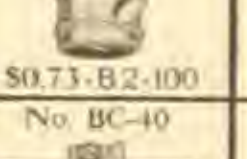
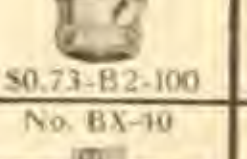
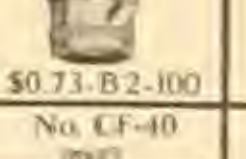
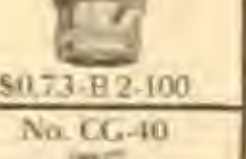
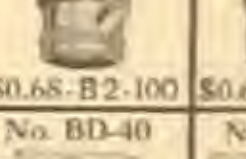
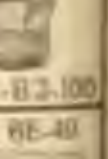
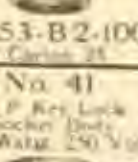
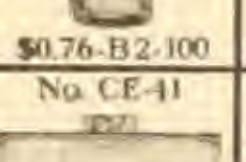
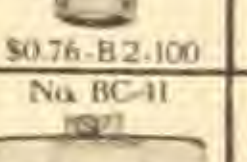
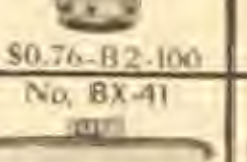
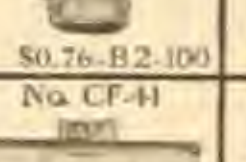
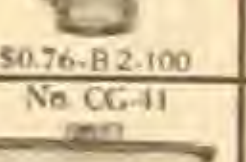
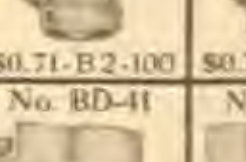
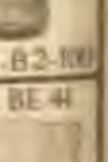
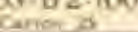
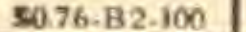


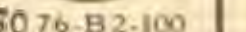
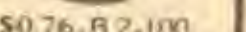


For more complete listings of bodies and caps, including ratings, see previous pages.



BRYANT NEW WRINKLE LINE  
NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. CF Base for Type 4400 Adapter Boxes	No. BC Base for 1/2-in. and 3/4-in. Oround Conduits	No. BX Base for 1/2-in. Oround Conduits	No. CE Base for 1/2-in. Rectangular Conduits	No. CG Base for 1/2-in. Rectangular Conduits	No. BD One-Way National Molding Base	No. BE Two-Way National Molding Base	
								
	\$0.23-B2-100 Cartridge 10	\$0.23-B2-100 Cartridge 10	\$0.23-B2-100 Cartridge 10	\$0.23-B2-100 Cartridge 10	\$0.23-B2-100 Cartridge 10	\$0.18-B2-100 Cartridge 10	\$0.18-B2-100 Cartridge 10	
No. 13 Keyless Socket Body 600 Watts, 250 Volts		No. CE-13	No. BC-13	No. BX-13	No. CE-13	No. CG-13	No. BD-13	No. BE-13
								
	\$0.23-B2-500 Cartridge 25	\$0.46-B2-250	\$0.46-B2-250	\$0.46-B2-250	\$0.46-B2-250	\$0.46-B2-250	\$0.41-B2-250	\$0.41-B2-250
No. 10 S.P. Key Socket Body 250 Watts, 250 Volts		No. CE-10	No. BC-10	No. BX-10	No. CE-10	No. CG-10	No. BD-10	No. BE-10
								
	\$0.26-B2-500 Cartridge 25	\$0.49-B2-250	\$0.49-B2-250	\$0.49-B2-250	\$0.49-B2-250	\$0.49-B2-250	\$0.44-B2-250	\$0.44-B2-250
No. 11 D.F. Key Socket Body 250 Watts, 250 Volts		No. CE-11	No. BC-11	No. BX-11	No. CE-11	No. CG-11	No. BD-11	No. BE-11
								
	\$0.26-B2-500 Cartridge 25	\$0.49-B2-250	\$0.49-B2-250	\$0.49-B2-250	\$0.49-B2-250	\$0.49-B2-250	\$0.44-B2-250	\$0.44-B2-250
No. 12 D.T. Key Socket Body 600 Watts, 250 Volts		No. CE-12	No. BC-12	No. BX-12	No. CE-12	No. CG-12	No. BD-12	No. BE-12
								
	\$0.29-B2-500 Cartridge 25	\$0.52-B2-250	\$0.52-B2-250	\$0.52-B2-250	\$0.52-B2-250	\$0.52-B2-250	\$0.47-B2-250	\$0.47-B2-250
No. 34 Push Button Socket Body 600 Watts, 250 Volts		No. CE-34	No. BC-34	No. BX-34	No. CE-34	No. CG-34	No. BD-34	No. BE-34
								
	\$0.35-B2-500 Cartridge 25	\$0.58-B2-250	\$0.58-B2-250	\$0.58-B2-250	\$0.58-B2-250	\$0.58-B2-250	\$0.53-B2-250	\$0.53-B2-250
No. 43 Keyless Lock Socket Body 600 Watts, 250 Volts		No. CE-43	No. BC-43	No. BX-43	No. CE-43	No. CG-43	No. BD-43	No. BE-43
								
	\$0.50-B2-100 Cartridge 25	\$0.73-B2-100	\$0.73-B2-100	\$0.73-B2-100	\$0.73-B2-100	\$0.73-B2-100	\$0.68-B2-100	\$0.68-B2-100
No. 40 S.P. Key Lock Socket Body 250 Watts, 250 Volts		No. CE-40	No. BC-40	No. BX-40	No. CE-40	No. CG-40	No. BD-40	No. BE-40
								
	\$0.53-B2-100 Cartridge 25	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.71-B2-100	\$0.71-B2-100
No. 41 D.F. Key Lock Socket Body 250 Watts, 250 Volts		No. CE-41	No. BC-41	No. BX-41	No. CE-41	No. CG-41	No. BD-41	No. BE-41
								
	\$0.53-B2-100 Cartridge 25	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.71-B2-100	\$0.71-B2-100

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.

















































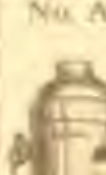









## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the caps, bases and bases are packed and shipped separately. The chart illustrations show the variety of sockets, receptacles and switches which can be assembled from combinations of these devices.

Combinations will be shipped assembled when so specified, without extra charge, but all orders will be subject to the delays which are usual in connection with goods that are not in stock.

	No. AA New Female Cap	No. AB New Female Cap	No. AC New Female Cap	No. AD New Female Cap	No. AE New Male Cap	No. AF New Male Cap	No. AG New Male Cap	No. AH New Male Cap
								
	\$0.07-B2-500 Cartridge	\$0.16-B2-100 Cartridge	\$0.13-B2-250 Cartridge	\$0.19-B2-50 Cartridge	\$0.07-B2-100 Cartridge	\$0.16-B2-50 Cartridge	\$0.16-B2-100 Cartridge	\$0.22-B2-50 Cartridge
	No. AA-42	No. AB-42	No. AC-42	No. AD-42	No. AE-42	No. AF-42	No. AG-42	No. AH-42
No. 42 QT. Box Lock Switch Body 3 Wires, 250 Volts								
\$0.56-B2-100 Cartridge	\$0.63-B2-100	\$0.72-B2-100	\$0.69-B2-100	\$0.75-B2-100	\$0.63-B2-100	\$0.72-B2-100	\$0.72-B2-100	\$0.75-B2-100
	No. AA-44	No. AB-44	No. AC-44	No. AD-44	No. AE-44	No. AF-44	No. AG-44	No. AH-44
No. 44 New Button Lock Switch Body 3 Wires, 250 Volts								
\$0.62-B2-100 Cartridge	\$0.69-B2-100	\$0.78-B2-100	\$0.75-B2-100	\$0.81-B2-100	\$0.69-B2-100	\$0.78-B2-100	\$0.78-B2-100	\$0.84-B2-100
	No. AA-15	No. AB-15	No. AC-15	No. AD-15	No. AE-15	No. AF-15	No. AG-15	No. AH-15
No. 15 Push Button Switch 3 Wires, 250 Volts								
\$0.53-B2-250 Cartridge	\$0.60-B2-250	\$0.69-B2-100	\$0.66-B2-250	\$0.72-B2-50	\$0.60-B2-250	\$0.69-B2-100	\$0.69-B2-100	\$0.75-B2-50
	No. AA-35	No. AB-35	No. AC-35	No. AD-35	No. AE-35	No. AF-35	No. AG-35	No. AH-35
No. 35 Push Button Switch 3 Wires, 250 Volts								
\$0.39-B2-250 Cartridge	\$0.66-B2-250	\$0.75-B2-100	\$0.72-B2-100	\$0.78-B2-50	\$0.66-B2-250	\$0.75-B2-100	\$0.75-B2-100	\$0.81-B2-50
	No. AA-16	No. AB-16	No. AC-16	No. AD-16	No. AE-16	No. AF-16	No. AG-16	No. AH-16
No. 16 New Push Button Switch Body 3 Wires, 250 Volts								
\$1.06-B2-20 Cartridge	\$1.15-B2-20	\$1.24-B2-20	\$1.21-B2-20	\$1.27-B2-20	\$1.15-B2-20	\$1.24-B2-20	\$1.24-B2-20	\$1.30-B2-20
	No. AA-17	No. AB-17	No. AC-17	No. AD-17	No. AE-17	No. AF-17	No. AG-17	No. AH-17
No. 17 New Push Button Switch Body 3 Wires, 250 Volts								
\$1.08-B2-20 Cartridge	\$1.15-B2-20	\$1.24-B2-20	\$1.21-B2-20	\$1.27-B2-20	\$1.15-B2-20	\$1.24-B2-20	\$1.24-B2-20	\$1.30-B2-20

★ Both Outlets Operate On and Off simultaneously

↑ Side Outlet On all the time, Bottom Outlet On and Off

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not acquired, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.






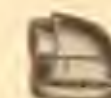
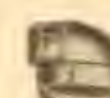

























































## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

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Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. AT Pendant Cap 1/2-in. Hole	No. AU Stream Relief Cap 1/2-in. Hole	No. CB Stream Relief Cap 1/2-in. Hole	No. AK 1/4-in. Flange Cap	No. AL 3/4-in. Flange Cap	No. AM 1/2 in. Angle Cap	No. AN 3/4 in. Angle Cap	No. AP 3/4 in. Angle Cap
								
	\$0.07-B2-500 Carton 25	\$0.07-B2-500 Carton 25	\$0.07-B2-100 Carton 25	\$0.13-B2-100 Carton 25	\$0.16-B2-100 Carton 25	\$0.12-B2-100 Carton 25	\$0.21-B2-50 Carton 25	\$0.18-B2-50 Carton 25
No. 42 Q.T. Key Lock Socket Body 660 Watts, 250 Volts	No. AT-42	No. AU-42	No. CB-42	No. AK-42	No. AL-42	No. AM-42	No. AN-42	No. AP-42
								
\$0.56-B2-100 Carton 25	\$0.63-B2-100	\$0.63-B2-100	\$0.63-B2-100	\$0.69-B2-100	\$0.72-B2-100	\$0.68-B2-100	\$0.77-B2-100	\$0.74-B2-100
No. 44 Push Button Lock Socket Body 660 Watts, 250 Volts	No. AT-44	No. AU-44	No. CB-44	No. AK-44	No. AL-44	No. AM-44	No. AN-44	No. AP-44
								
\$0.62-B2-100 Carton 25	\$0.69-B2-100	\$0.69-B2-100	\$0.69-B2-100	\$0.75-B2-100	\$0.78-B2-100	\$0.74-B2-100	\$0.83-B2-100	\$0.80-B2-100
No. 15 Pull Socket Body 250 Watts, 250 Volts	No. AT-15	No. AU-15	No. CB-15	No. AK-15	No. AL-15	No. AM-15	No. AN-15	No. AP-15
								
\$0.53-B2-250 Carton 25	\$0.60-B2-250	\$0.60-B2-250	\$0.60-B2-100	\$0.66-B2-100	\$0.69-B2-100	\$0.65-B2-50	\$0.74-B2-50	\$0.71-B2-50
No. 35 Q.T. Pull Socket Body 660 Watts, 250 Volts	No. AT-35	No. AU-35	No. CB-35	No. AK-35	No. AL-35	No. AM-35	No. AN-35	No. AP-35
								
\$0.59-B2-250 Carton 25	\$0.66-B2-250	\$0.66-B2-250	\$0.66-B2-100	\$0.72-B2-100	\$0.75-B2-100	\$0.71-B2-50	\$0.80-B2-50	\$0.77-B2-50
No. 16 Twin Pull Socket Body	No. AT-16	No. AU-16	No. CB-16	No. AK-16	No. AL-16	No. AM-16	No. AN-16	No. AP-16
								
Each Outlet, 250 Watts, 250 Volts \$1.08-B2-20 Carton 10	\$1.15-B2-20	\$1.15-B2-20	\$1.15-B2-20	\$1.21-B2-20	\$1.24-B2-20	\$1.20-B2-20	\$1.29-B2-20	\$1.26-B2-20
No. 17 Twin Pull Socket Body	No. AT-17	No. AU-17	No. CB-17	No. AK-17	No. AL-17	No. AM-17	No. AN-17	No. AP-17
								
Bottom Outlet, 250 Watts, 250 Volts Side Outlet, 660 Watts, 250 Volts \$1.08-B2-20 Carton 10	\$1.15-B2-20	\$1.15-B2-20	\$1.15-B2-20	\$1.21-B2-20	\$1.24-B2-20	\$1.20-B2-20	\$1.29-B2-20	\$1.26-B2-20

★ Both Outlets Operate On and Off simultaneously

↑ Side Outlet, On all the time, Bottom Outlet, On and Off

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Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.
















































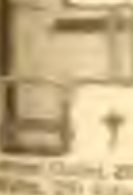









## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

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	No. AR 1/2" Angle Flange Cap	No. AS 3/4" Angle Flange Cap	No. BH Small Covered Base	No. BK Large Covered Base	No. BL 1/2" Flat Box Base	No. BN 1/2" Flat Box Base	No. BM 1/2" Flat Box Base
							
	\$0.18-B2-50 Carton 20	\$0.21-B2-50 Carton 25	\$0.28-B2-250 Carton 10	\$0.37-B2-100 Carton 10	\$0.37-B2-100 Carton 10	\$0.47-B2-50 Carton 10	\$0.67-B2-100 Carton 5
No. 42 2 1/2" Bellows Switch 1/2" Box, 200 Vols.	No. AR-42	No. AS-42	No. BH-42	No. BK-42	No. BL-42	No. BN-42	No. BM-42
							
\$0.56-B2-100 Carton 20	\$0.71-B2-100	\$0.77-B2-100	\$0.84-B2-100	\$0.93-B2-100	\$0.93-B2-100	\$1.03-B2-100	\$1.23-B2-100
No. 44 2 1/2" Bellows Switch 1/2" Box, 200 Vols.	No. AR-44	No. AS-44	No. BH-44	No. BK-44	No. BL-44	No. BN-44	No. BM-44
							
\$0.62-B2-100 Carton 20	\$0.81-B2-100	\$0.87-B2-100	\$0.90-B2-100	\$0.99-B2-100	\$0.99-B2-100	\$1.09-B2-100	\$1.29-B2-100
No. 45 2 1/2" Bellows Switch 1/2" Box, 200 Vols.	No. AR-45	No. AS-45	No. BH-45	No. BK-45	No. BL-45	No. BN-45	No. BM-45
							
\$0.51-B2-250 Carton 10	\$0.71-B2-50	\$0.74-B2-50	\$0.81-B2-100	\$0.90-B2-50	\$0.90-B2-50	\$1.00-B2-50	\$1.20-B2-50
No. 35 2 1/2" Bellows Switch 1/2" Box, 200 Vols.	No. AR-35	No. AS-35	No. BH-35	No. BK-35	No. BL-35	No. BN-35	No. BM-35
							
\$0.56-B2-250 Carton 10	\$0.77-B2-50	\$0.80-B2-50	\$0.87-B2-100	\$0.96-B2-50	\$0.96-B2-50	\$1.06-B2-50	\$1.26-B2-50
No. 16 2 1/2" Bellows Switch 1/2" Box, 200 Vols.	No. AR-16	No. AS-16	No. BH-16	No. BK-16	No. BL-16	No. BN-16	No. BM-16
							
\$1.08-B2-20 Carton 10	\$1.26-B2-20	\$1.29-B2-20	\$1.36-B2-20	\$1.45-B2-20	\$1.45-B2-20	\$1.55-B2-20	\$1.75-B2-20
No. 17 2 1/2" Bellows Switch 1/2" Box, 200 Vols.	No. AR-17	No. AS-17	No. BH-17	No. BK-17	No. BL-17	No. BN-17	No. BM-17
							
\$1.26-B2-20 Carton 10	\$1.26-B2-20	\$1.29-B2-20	\$1.36-B2-20	\$1.45-B2-20	\$1.45-B2-20	\$1.55-B2-20	\$1.75-B2-20

★ Bellows, Operates On and Off simultaneously

† Side Outlet, Do all the time, Bottom Outlet, On and Off

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.
















































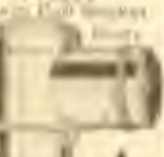





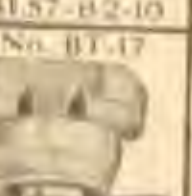



## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. BP Box Plumber Base	No. BZ Boxing Top Base	No. AV Armature Plug Cap	No. BR Combined Fixture Removal Base	No. BS Clear Fixture Removal Base	No. BT Molding Fixture Removal Base	No. BV Combined Fixture Removal Base
							
	\$0.77-B2-50 Carton 10	\$0.22-B2-20 Carton 10	\$0.17-B2-50 Carton 10	\$0.49-B2-50 Carton 10	\$0.49-B2-50 Carton 10	\$0.49-B2-50 Carton 10	\$0.49-B2-50 Carton 10
No. 42 OT Box Lock Switch Body 600 Watts, 250 Volts	No. BP-42	No. BZ-42	No. AV-42	No. BR-42	No. BS-42	No. BT-42	No. BV-42
							
\$0.56-B2-100 Carton 10	\$1.11-B2-100	\$0.76-B2-20	\$0.83-B2-50	\$1.05-B2-100	\$1.05-B2-100	\$1.05-B2-100	\$1.05-B2-100
No. 44 Push Button Lock Switch Body 600 Watts, 250 Volts	No. BP-44	No. BZ-44	No. AV-44	No. BR-44	No. BS-44	No. BT-44	No. BV-44
							
\$0.62-B2-100 Carton 10	\$1.39-B2-100	\$0.84-B2-20	\$0.89-B2-50	\$1.11-B2-100	\$1.11-B2-100	\$1.11-B2-100	\$1.11-B2-100
No. 15 Push Button Body 250 Watts, 250 Volts	No. BP-15	No. BZ-15	No. AV-15	No. BR-15	No. BS-15	No. BT-15	No. BV-15
							
\$0.51-B2-250 Carton 20	\$1.30-B2-50	\$0.78-B2-20	\$0.80-B2-50	\$1.02-B2-20	\$1.02-B2-20	\$1.02-B2-20	\$1.02-B2-20
No. 35 OT Push Button Body 600 Watts, 250 Volts	No. BP-35	No. BZ-35	No. AV-35	No. BR-35	No. BS-35	No. BT-35	No. BV-35
							
\$0.59-B2-250 Carton 10	\$1.36-B2-50	\$0.81-B2-20	\$0.86-B2-50	\$1.08-B2-20	\$1.08-B2-20	\$1.08-B2-20	\$1.08-B2-20
No. 16 Push Button Switch Body, Double	No. BP-16	No. BZ-16	No. AV-16	No. BR-16	No. BS-16	No. BT-16	No. BV-16
							
Each Outlet, 250 Watts, 250 Volts \$1.08-B2-20 Carton 10	\$1.85-B2-20	\$1.30-B2-20	\$1.35-B2-20	\$1.57-B2-10	\$1.57-B2-10	\$1.57-B2-10	\$1.57-B2-10
No. 17 Push Button Switch Body, Single	No. BP-17	No. BZ-17	No. AV-17	No. BR-17	No. BS-17	No. BT-17	No. BV-17
							
Each Outlet, 250 Watts, 250 Volts \$1.08-B2-20 Carton 10	\$1.85-B2-20	\$1.30-B2-20	\$1.35-B2-20	\$1.57-B2-10	\$1.57-B2-10	\$1.57-B2-10	\$1.57-B2-10

★ Both Outlets Operate On and Off simultaneously

↑ Side Outlet, On all the time, Bottom Outlet, On and Off

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.






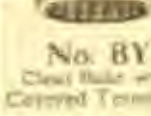
















































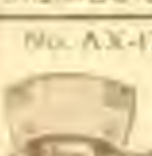


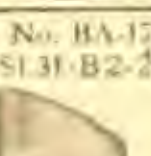
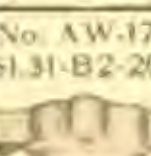

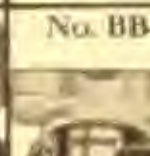
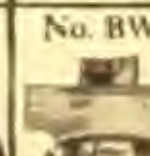


# BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bases, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but orders will be subject to the delays which are usual in connection with goods that are not in stock.

	No. AX Standard Base	No. AY Small Conical Base	No. AZ Large Conical Base	No. BA Angle Conical Base	No. AW Clear Base	No. BY Clear Base with Colored Terminals	No. BB Wood Mounting Base	No. BW Base for 1/2-inch Taplets
								
	\$0.18-B2-250 Carton 10	\$0.18-B2-250 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-250 Carton 10	\$0.36-B2-100 Carton 5	\$0.18-B2-100 Carton 10	\$0.23-B2-100 Carton 10
No. 42 1/2" Bay Lock Spoke Body Watts 200 Volt	No. AX-42	No. AY-42	No. AZ-42	No. BA-42	No. AW-42	No. BY-42	No. BB-42	No. BW-42
								
58-B2-100 Carton 10	\$0.74-B2-100	\$0.74-B2-100	\$0.79-B2-100	\$0.79-B2-100	\$0.79-B2-100	\$0.92-B2-100	\$0.74-B2-100	\$0.79-B2-100
No. 44 1/2" Bay Lock Spoke Body Watts 200 Volt	No. AX-44	No. AY-44	No. AZ-44	No. BA-44	No. AW-44	No. BY-44	No. BB-44	No. BW-44
								
62-B2-100 Carton 10	\$0.80-B2-100	\$0.80-B2-100	\$0.85-B2-100	\$0.85-B2-100	\$0.85-B2-100	\$0.98-B2-100	\$0.80-B2-100	\$0.85-B2-100
No. 45 1/2" Bay Lock Spoke Body Watts 200 Volt	No. AX-45	No. AY-45	No. AZ-45	No. BA-45	No. AW-45	No. BY-45	No. BB-45	No. BW-45
								
53-B2-250 Carton 10	\$0.71-B2-100	\$0.71-B2-100	\$0.76-B2-100	\$0.76-B2-50	\$0.76-B2-100	\$0.89-B2-50	\$0.71-B2-100	\$0.76-B2-100
No. 35 1/2" Bay Lock Spoke Body Watts 200 Volt	No. AX-35	No. AY-35	No. AZ-35	No. BA-35	No. AW-35	No. BY-35	No. BB-35	No. BW-35
								
59-B2-250 Carton 10	\$0.77-B2-100	\$0.77-B2-100	\$0.82-B2-100	\$0.82-B2-50	\$0.82-B2-100	\$0.95-B2-50	\$0.77-B2-100	\$0.82-B2-100
No. 16 1/2" Bay Lock Spoke Body Watts 200 Volt	No. AX-16	No. AY-16	No. AZ-16	No. BA-16	No. AW-16	No. BY-16	No. BB-16	No. BW-16
								
108-B2-20 Carton 10	\$1.26-B2-20	\$1.26-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.44-B2-20	\$1.26-B2-20	\$1.31-B2-20
No. 17 1/2" Bay Lock Spoke Body Watts 200 Volt	No. AX-17	No. AY-17	No. AZ-17	No. BA-17	No. AW-17	No. BY-17	No. BB-17	No. BW-17
								
108-B2-20 Carton 10	\$1.26-B2-20	\$1.26-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.44-B2-20	\$1.26-B2-20	\$1.31-B2-20

\* Both Outlets Operate On and Off simultaneously

† Side Outlet, On all the time, Bottom Outlet, On and Off

No. BW Base also fits 1/2-inch taplets.

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.






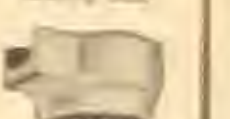
















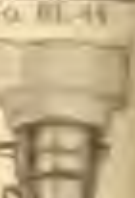







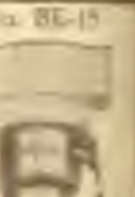






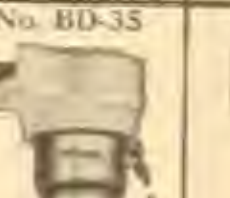
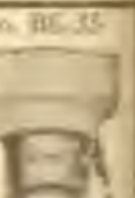










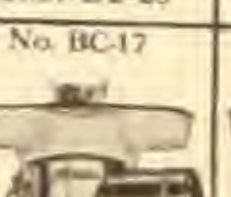
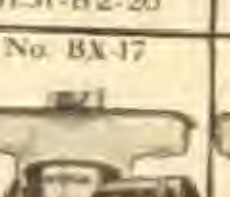
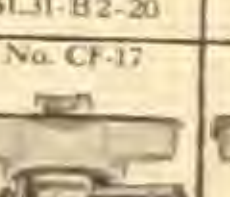
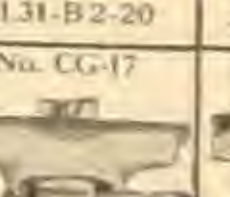
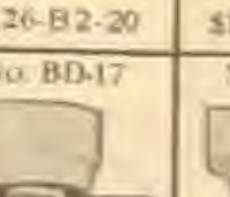
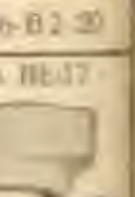


## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. CB Base for Type 4400 Aluminum Boxes	No. BC Base for 1/2 in. and 5/8 in. Round Conductors	No. BX Base for 1/2 in. and 5/8 in. Round Conductors	No. CF Base for 1/2 in. and 5/8 in. Rectangular Conductors	No. CG Base for 1/2 in. and 5/8 in. Rectangular Conductors	No. BD One-Way National Molding Base	No. BE Two-Way National Molding Base	
								
	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.18-B2-100 Carton 10	\$0.18-B2-100 Carton 10	
No. 42 OT Key Lock Socket Body 660 Watts, 250 Volts		No. CE-42	No. BC-42	No. BX-42	No. CF-42	No. CG-42	No. BD-42	No. BE-42
\$0.56-B2-100 Carton 25								
	\$0.79-B2-100	\$0.79-B2-100	\$0.79-B2-100	\$0.79-B2-100	\$0.79-B2-100	\$0.74-B2-100	\$0.74-B2-100	
No. 44 Push Button Lock Socket Body 660 Watts, 250 Volts		No. CE-44	No. BC-44	No. BX-44	No. CF-44	No. CG-44	No. BD-44	No. BE-44
\$0.62-B2-100 Carton 25								
	\$0.85-B2-100	\$0.85-B2-100	\$0.85-B2-100	\$0.85-B2-100	\$0.85-B2-100	\$0.80-B2-100	\$0.80-B2-100	
No. 15 Pull Socket Body 250 Watts, 250 Volts		No. CE-15	No. BC-15	No. BX-15	No. CF-15	No. CG-15	No. BD-15	No. BE-15
\$0.53-B2-250 Carton 25								
	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.76-B2-100	\$0.71-B2-100	\$0.71-B2-100	
No. 35 OT Pull Socket Body 660 Watts, 250 Volts		No. CE-35	No. BC-35	No. BX-35	No. CF-35	No. CG-35	No. BD-35	No. BE-35
\$0.59-B2-250 Carton 25								
	\$0.82-B2-100	\$0.82-B2-100	\$0.82-B2-100	\$0.82-B2-100	\$0.82-B2-100	\$0.77-B2-100	\$0.77-B2-100	
No. 16 Two Pull Socket Body ★		No. CE-16	No. BC-16	No. BX-16	No. CF-16	No. CG-16	No. BD-16	No. BE-16
Each Outlet, 250 Watts, 250 Volts \$1.08-B2-20 Carton 10								
	\$1.31-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.26-B2-20	\$1.26-B2-20	
No. 17 Two Pull Socket Body †		No. CE-17	No. BC-17	No. BX-17	No. CF-17	No. CG-17	No. BD-17	No. BE-17
Bottom Outlet, 250 Watts, 250 Volts Side Outlet, 660 Watts, 250 Volts \$1.08-B2-20 Carton 10								
	\$1.31-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.31-B2-20	\$1.26-B2-20	\$1.26-B2-20	

★ Both Outlets Operate On and Off simultaneously

† Side Outlet, On all the time, Bottom Outlet, On and Off

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.








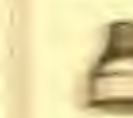
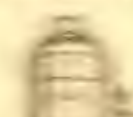
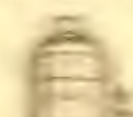


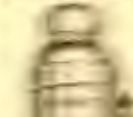
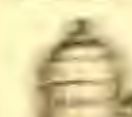
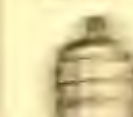

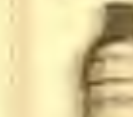


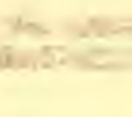
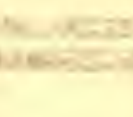
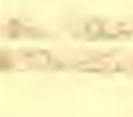
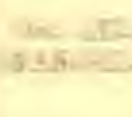
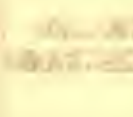
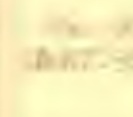
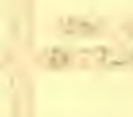


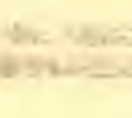
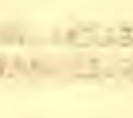
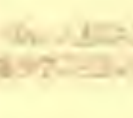
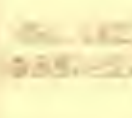
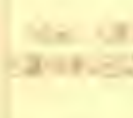
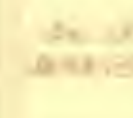
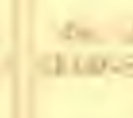
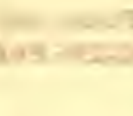
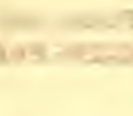
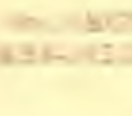
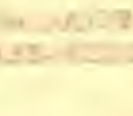
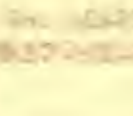
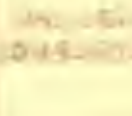
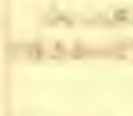
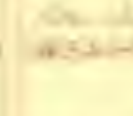
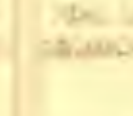


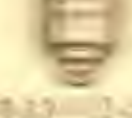




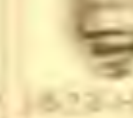



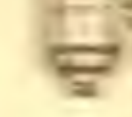



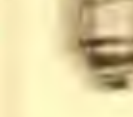

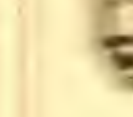


# BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

The devices comprising the New Wrinkle Line are not carried in stock assembled but the top caps and bases are packed and shipped separately.

Connections will be formed assembled when so specified, without extra charge but such work will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. 10 1/2" x 1/2" x 1/2"	No. 11 3/4" x 3/4" x 3/4"	No. 12 1" x 1" x 1"	No. 13 1 1/4" x 1 1/4" x 1 1/4"	No. 14 1 1/2" x 1 1/2" x 1 1/2"	No. 15 2" x 2" x 2"	No. 16 2 1/2" x 2 1/2" x 2 1/2"	No. 17 3" x 3" x 3"
								
	10-10-10-00 10-10-10-00	11-11-11-00 11-11-11-00	12-12-12-00 12-12-12-00	13-13-13-00 13-13-13-00	14-14-14-00 14-14-14-00	15-15-15-00 15-15-15-00	16-16-16-00 16-16-16-00	17-17-17-00 17-17-17-00
	No. 18-1 18-1-18-1	No. 18-2 18-2-18-2	No. 18-3 18-3-18-3	No. 18-4 18-4-18-4	No. 18-5 18-5-18-5	No. 18-6 18-6-18-6	No. 18-7 18-7-18-7	No. 18-8 18-8-18-8
								
	18-1-18-1 18-1-18-1	18-2-18-2 18-2-18-2	18-3-18-3 18-3-18-3	18-4-18-4 18-4-18-4	18-5-18-5 18-5-18-5	18-6-18-6 18-6-18-6	18-7-18-7 18-7-18-7	18-8-18-8 18-8-18-8
	No. 19-1 19-1-19-1	No. 19-2 19-2-19-2	No. 19-3 19-3-19-3	No. 19-4 19-4-19-4	No. 19-5 19-5-19-5	No. 19-6 19-6-19-6	No. 19-7 19-7-19-7	No. 19-8 19-8-19-8
								
	19-1-19-1 19-1-19-1	19-2-19-2 19-2-19-2	19-3-19-3 19-3-19-3	19-4-19-4 19-4-19-4	19-5-19-5 19-5-19-5	19-6-19-6 19-6-19-6	19-7-19-7 19-7-19-7	19-8-19-8 19-8-19-8
	No. 20-1 20-1-20-1	No. 20-2 20-2-20-2	No. 20-3 20-3-20-3	No. 20-4 20-4-20-4	No. 20-5 20-5-20-5	No. 20-6 20-6-20-6	No. 20-7 20-7-20-7	No. 20-8 20-8-20-8
								
	20-1-20-1 20-1-20-1	20-2-20-2 20-2-20-2	20-3-20-3 20-3-20-3	20-4-20-4 20-4-20-4	20-5-20-5 20-5-20-5	20-6-20-6 20-6-20-6	20-7-20-7 20-7-20-7	20-8-20-8 20-8-20-8
	No. 21-1 21-1-21-1	No. 21-2 21-2-21-2	No. 21-3 21-3-21-3	No. 21-4 21-4-21-4	No. 21-5 21-5-21-5	No. 21-6 21-6-21-6	No. 21-7 21-7-21-7	No. 21-8 21-8-21-8
								
	21-1-21-1 21-1-21-1	21-2-21-2 21-2-21-2	21-3-21-3 21-3-21-3	21-4-21-4 21-4-21-4	21-5-21-5 21-5-21-5	21-6-21-6 21-6-21-6	21-7-21-7 21-7-21-7	21-8-21-8 21-8-21-8
	No. 22-1 22-1-22-1	No. 22-2 22-2-22-2	No. 22-3 22-3-22-3	No. 22-4 22-4-22-4	No. 22-5 22-5-22-5	No. 22-6 22-6-22-6	No. 22-7 22-7-22-7	No. 22-8 22-8-22-8
								
	22-1-22-1 22-1-22-1	22-2-22-2 22-2-22-2	22-3-22-3 22-3-22-3	22-4-22-4 22-4-22-4	22-5-22-5 22-5-22-5	22-6-22-6 22-6-22-6	22-7-22-7 22-7-22-7	22-8-22-8 22-8-22-8
	No. 23-1 23-1-23-1	No. 23-2 23-2-23-2	No. 23-3 23-3-23-3	No. 23-4 23-4-23-4	No. 23-5 23-5-23-5	No. 23-6 23-6-23-6	No. 23-7 23-7-23-7	No. 23-8 23-8-23-8
								
	23-1-23-1 23-1-23-1	23-2-23-2 23-2-23-2	23-3-23-3 23-3-23-3	23-4-23-4 23-4-23-4	23-5-23-5 23-5-23-5	23-6-23-6 23-6-23-6	23-7-23-7 23-7-23-7	23-8-23-8 23-8-23-8

See page 40 for full details.

The standard size of all these and other similar devices is 1/2" x 1/2" x 1/2" and 1/4" x 1/4" x 1/4". The standard size of all these and other similar devices is 1/2" x 1/2" x 1/2" and 1/4" x 1/4" x 1/4". The standard size of all these and other similar devices is 1/2" x 1/2" x 1/2" and 1/4" x 1/4" x 1/4".

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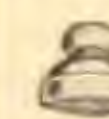
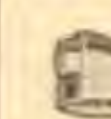
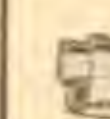
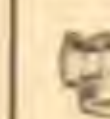












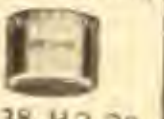


















The standard size of all these and other similar devices is 1/2" x 1/2" x 1/2" and 1/4" x 1/4" x 1/4".



BRYANT NEW WRINKLE LINE  
NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. AT Pendent Cap 1/2-in. Hole	No. AU Strain Relief Cap 1/2-in. Hole	No. CB Strain Relief Cap 1/2-in. Hole	No. AK 1-in. Fixture Cap	No. AL 1-in. Fixture Cap	No. AM 1-in. Angle Cap	No. AN 1-in. Angle Cap	No. AP 1-in. Angle Cap
								
	\$0.07-B 2-500 Carton 25	\$0.07-B 2-500 Carton 25	\$0.07-B 2-100 Carton 25	\$0.13-B 2-100 Carton 25	\$0.16-B 2-100 Carton 25	\$0.12-B 2-100 Carton 25	\$0.21-B 2-50 Carton 25	\$0.18-B 2-50 Carton 25
No. 45 Pull Lock Socket Body 250 Watts, 250 Volts	No. AT-45	No. AU-45	No. CB-45	No. AK-45	No. AL-45	No. AM-45	No. AN-45	No. AP-45
								
\$0.80-B 2-100 Carton 25	\$0.87-B 2-100	\$0.87-B 2-100	\$0.87-B 2-100	\$0.93-B 2-100	\$0.96-B 2-100	\$0.92-B 2-50	\$1.01-B 2-50	\$0.98-B 2-50
No. 32 Keyless Socket Body with Spartan Outlet Each Outlet 660 Watts, 250 Volts	No. AT-32 \$0.55-B 2-50	No. AU-32 \$0.55-B 2-50	No. CB-32 \$0.55-B 2-100	No. AK-32 \$0.61-B 2-50	No. AL-32 \$0.64-B 2-50	No. AM-32 \$0.60-B 2-50	No. AN-32 \$0.69-B 2-50	No. AP-32 \$0.66-B 2-50
								
\$0.48-B 2-50 Carton 10								
No. 31 QT. Key Socket Body with Spartan Outlet Each Outlet 660 Watts, 250 Volts	No. AT-31 \$0.58-B 2-50	No. AU-31 \$0.58-B 2-50	No. CB-31 \$0.58-B 2-100	No. AK-31 \$0.64-B 2-50	No. AL-31 \$0.67-B 2-50	No. AM-31 \$0.63-B 2-50	No. AN-31 \$0.72-B 2-50	No. AP-31 \$0.69-B 2-50
								
\$0.51-B 2-50 Carton 10								
No. 33 Pull Socket Body with Spartan Outlet	No. AT-33 \$0.65-B 2-50	No. AU-33 \$0.65-B 2-50	No. CB-33 \$0.65-B 2-100	No. AK-33 \$0.91-B 2-50	No. AL-33 \$0.94-B 2-50	No. AM-33 \$0.90-B 2-50	No. AN-33 \$0.99-B 2-50	No. AP-33 \$0.96-B 2-50
								
\$0.78-B 2-50 Carton 10								
No. 29 Spartan Plug Receptacle Body 10 Amp, 250 Volts	No. AT-29 \$0.45-H 2-20	No. AU-29 \$0.45-H 2-20	No. CB-29 \$0.45-H 2-20	No. AK-29 \$0.51-H 2-20	No. AL-29 \$0.54-H 2-20	No. AM-29 \$0.50-H 2-20	No. AN-29 \$0.59-H 2-20	No. AP-29 \$0.56-H 2-20
								
\$0.38-H 2-20 Carton 10								
No. 26 Receptacle Body 3 Amp, 250 Volts	No. AT-26 \$0.20-H 2-20	No. AU-26 \$0.20-H 2-20	No. CB-26 \$0.20-H 2-20	No. AK-26 \$0.26-H 2-20	No. AL-26 \$0.29-H 2-20	No. AM-26 \$0.25-H 2-20	No. AN-26 \$0.34-H 2-20	No. AP-26 \$0.31-H 2-20
								
\$0.13-H 2-20 Carton 10								
No. 25 Pull Switch Receptacle Body	No. AT-25 \$0.60-H 2-20	No. AU-25 \$0.60-H 2-20	No. CB-25 \$0.60-B 2-20	No. AK-25 \$0.66-H 2-20	No. AL-25 \$0.69-H 2-20	No. AM-25 \$0.65-H 2-20	No. AN-25 \$0.74-H 2-20	No. AP-25 \$0.71-H 2-20
								
3 Amp, 125 Volts 3 Amp, 250 Volts \$0.53-H 2-100 Carton 10								

\*Each outlet 660 Watts, 250 Volts.

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.


















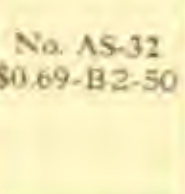
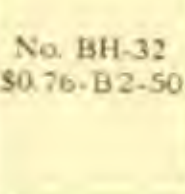
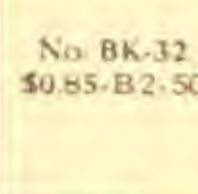
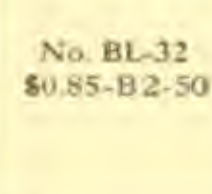
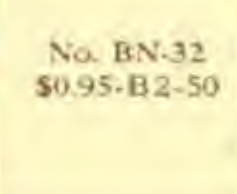
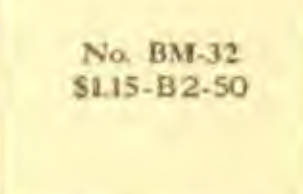

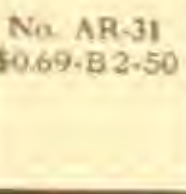
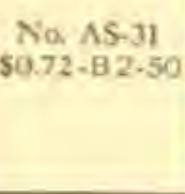
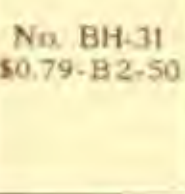
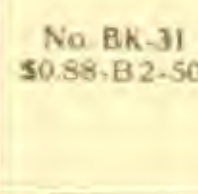
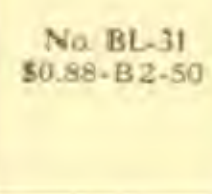
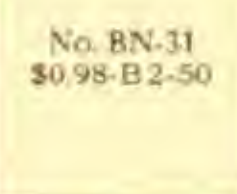
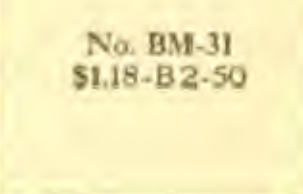
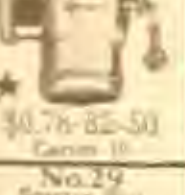
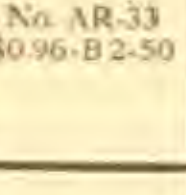
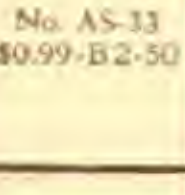
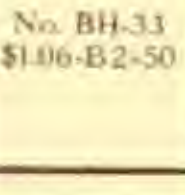
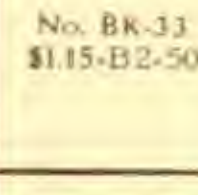
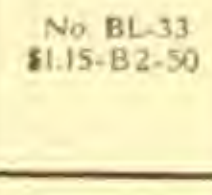
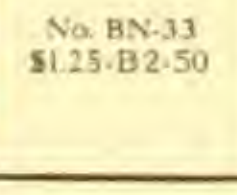
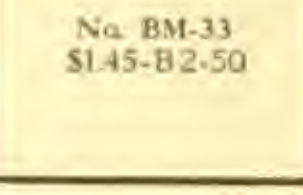
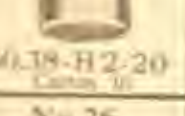
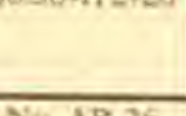
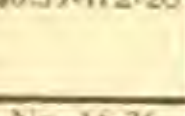
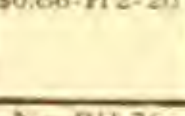
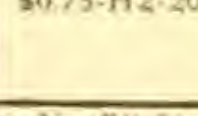
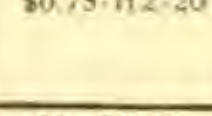
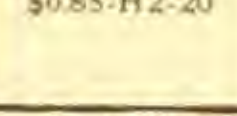
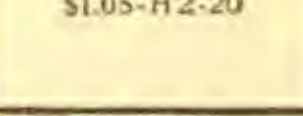















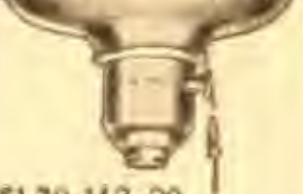


# BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

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	No. AR 1/2-in. Angle Fixture Cap 	No. AS 1/2-in. Angle Fixture Cap 	No. BH Small Covered Base 	No. BK Large Covered Base 	No. BL 3 1/4-in. Box Base 	No. BN 3 1/4-in. Pancake Base 	No. BM 7-in. Box Base 
	\$0.18-B2-50 Carton 25	\$0.21-B2-50 Carton 25	\$0.28-B2-250 Carton 10	\$0.37-B2-100 Carton 10	\$0.37-B2-100 Carton 10	\$0.47-B2-50 Carton 10	\$0.67-B2-100 Carton 5
No. 45 Full Lock Socket Body 250 Watts, 250 Volts 	No. AR-45 \$0.98-B2-50 	No. AS-45 \$1.01-B2-50 	No. BH-45 \$1.08-B2-100 	No. BK-45 \$1.17-B2-50 	No. BL-45 \$1.17-B2-50 	No. BN-45 \$1.27-B2-50 	No. BM-45 \$1.47-B2-50 
No. 32 Keyless Socket Body with Separate Outlet Each Outlet 660 Watts, 250 Volts 	No. AR-32 \$0.66-B2-50 	No. AS-32 \$0.69-B2-50 	No. BH-32 \$0.76-B2-50 	No. BK-32 \$0.85-B2-50 	No. BL-32 \$0.85-B2-50 	No. BN-32 \$0.95-B2-50 	No. BM-32 \$1.15-B2-50 
No. 31 D.T. Key Socket Body with Separate Outlet Each Outlet 660 Watts, 250 Volts 	No. AR-31 \$0.69-B2-50 	No. AS-31 \$0.72-B2-50 	No. BH-31 \$0.79-B2-50 	No. BK-31 \$0.88-B2-50 	No. BL-31 \$0.88-B2-50 	No. BN-31 \$0.98-B2-50 	No. BM-31 \$1.18-B2-50 
No. 33 Full Socket Body with Separate Outlet 	No. AR-33 \$0.96-B2-50 	No. AS-33 \$0.99-B2-50 	No. BH-33 \$1.06-B2-50 	No. BK-33 \$1.15-B2-50 	No. BL-33 \$1.15-B2-50 	No. BN-33 \$1.25-B2-50 	No. BM-33 \$1.45-B2-50 
No. 29 Spartan Plug Receptacle Body 660 Watts, 250 Volts 	No. AR-29 \$0.56-H2-20 	No. AS-29 \$0.59-H2-20 	No. BH-29 \$0.66-H2-20 	No. BK-29 \$0.75-H2-20 	No. BL-29 \$0.75-H2-20 	No. BN-29 \$0.85-H2-20 	No. BM-29 \$1.05-H2-20 
No. 26 Recessed Body 3 Amps, 250 Volts 	No. AR-26 \$0.31-H2-20 	No. AS-26 \$0.34-H2-20 	No. BH-26 \$0.41-H2-20 	No. BK-26 \$0.50-H2-20 	No. BL-26 \$0.50-H2-20 	No. BN-26 \$0.60-H2-20 	No. BM-26 \$0.80-H2-20 
No. 25 Full Switch Receptacle Body 	No. AR-25 \$0.71-H2-20 	No. AS-25 \$0.74-H2-20 	No. BH-25 \$0.81-H2-20 	No. BK-25 \$0.90-H2-20 	No. BL-25 \$0.90-H2-20 	No. BN-25 \$1.00-H2-20 	No. BM-25 \$1.20-H2-20 

\*Each outlet 660 Watts, 250 Volts.

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For more complete listings of bodies and caps, including ratings, see previous pages.







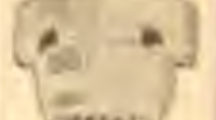


## BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. BP 4-in. Pancake Base	No. BZ Canopy Top Base	No. AV Attachment Plug Cap	No. BR Combined Fusible Receptacle Base	No. BS Clear Fusible Receptacle Base	No. BT Molding Fusible Receptacle Base	No. BV Combination Fusible Receptacle Base
	 \$0.77-B 2-50 Carton 5	 \$0.22-B 2-20 Carton 10	 \$0.27-B 2-50 Carton 10	 \$0.49-B 2-50 Carton 10	 \$0.49-B 2-50 Carton 10	 \$0.49-B 2-50 Carton 10	 \$0.49-B 2-50 Carton 10
No. 45 Pull Lock Socket Body 250 Watts, 250 Volts	No. BP-45 \$1.57-B 2-50	No. BZ-45 \$1.02-B 2-20	No. AV-45 \$1.07-B 2-50	No. BR-45 \$1.29-B 2-20	No. BS-45 \$1.29-B 2-20	No. BT-45 \$1.29-B 2-20	No. BV-45 \$1.29-B 2-20
No. 32 Keyless Socket Body with Spartan Outlet Each Outlet 660 Watts, 250 Volts	No. BP-32 \$1.25-B 2-50	No. BZ-32 \$0.70-B 2-20	No. AV-32 \$0.75-B 2-50	No. BR-32 \$0.97-B 2-50	No. BS-32 \$0.97-B 2-50	No. BT-32 \$0.97-B 2-50	No. BV-32 \$0.97-B 2-50
No. 31 Q.T. Key Socket Body with Spartan Outlet Each Outlet 660 Watts, 250 Volts	No. BP-31 \$1.28-B 2-50	No. BZ-31 \$0.73-B 2-20	No. AV-31 \$0.78-B 2-50	No. BR-31 \$1.00-B 2-50	No. BS-31 \$1.00-B 2-50	No. BT-31 \$1.00-B 2-50	No. BV-31 \$1.00-B 2-50
No. 33 Pull Socket Body with Spartan Outlet	No. BP-33 \$1.55-B 2-50	No. BZ-33 \$1.00-B 2-20	No. AV-33 \$1.05-B 2-50	No. BR-33 \$1.27-B 2-50	No. BS-33 \$1.27-B 2-50	No. BT-33 \$1.27-B 2-50	No. BV-33 \$1.27-B 2-50
No. 29 Spartan Plug Receptacle Body 10 Amp, 250 Volts	No. BP-29 \$1.15-H 2-20	No. BZ-29 \$0.60-H 2-20	No. AV-29 \$0.65-H 2-20	No. BR-29 \$0.87-H 2-10	No. BS-29 \$0.87-H 2-10	No. BT-29 \$0.87-H 2-10	No. BV-29 \$0.87-H 2-10
No. 26 Receptacle Body 3 Amp, 250 Volts	No. BP-26 \$0.90-H 2-20	No. BZ-26 \$0.35-H 2-20	No. AV-26 \$0.40-H 2-20	No. BR-26 \$0.62-H 2-10	No. BS-26 \$0.62-H 2-10	No. BT-26 \$0.62-H 2-10	No. BV-26 \$0.62-H 2-10
No. 25 Pull Switch Receptacle Body 3 Amp, 125 Volts, 1 Amp, 250 Volts	No. BP-25 \$1.30-H 2-20	No. BZ-25 \$0.75-H 2-20	No. AV-25 \$0.80-H 2-20	No. BR-25 \$1.02-H 2-20	No. BS-25 \$1.02-H 2-20	No. BT-25 \$1.02-H 2-20	No. BV-25 \$1.02-H 2-20

\*Each outlet 660 Watts, 250 Volts.

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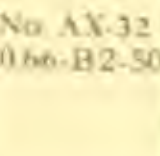
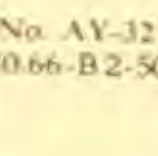
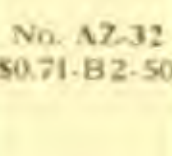
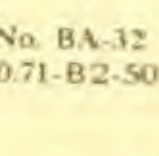
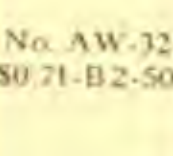
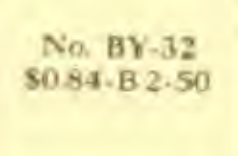
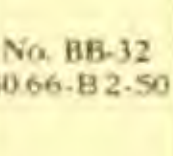
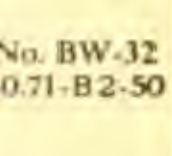

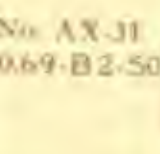
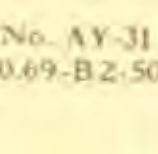
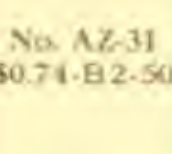
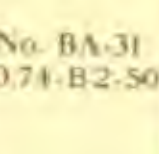
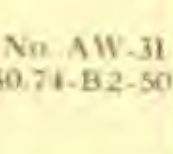
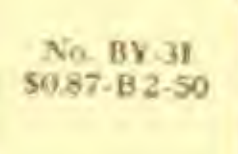
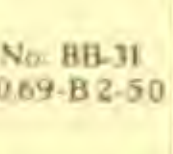
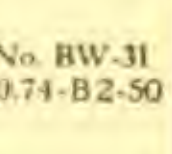

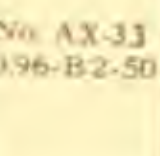
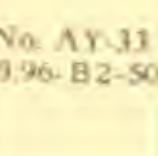
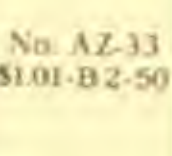
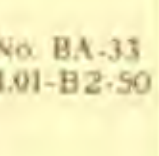
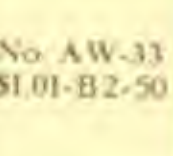
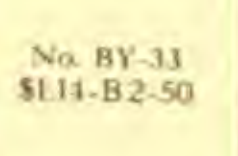
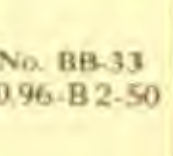
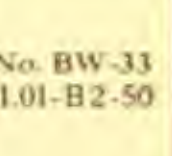

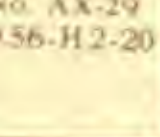
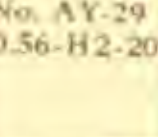
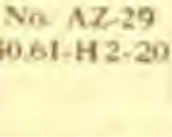
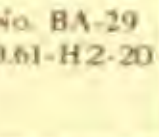
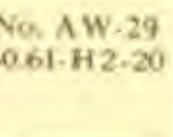
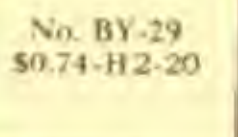
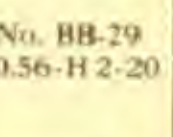
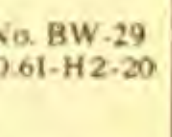


















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## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

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	No. AX Slotted Base	No. AY Small Concealed Base	No. AZ Large Concealed Base	No. BA Angle Concealed Base	No. AW Clear Base	No. BY Clear Base with Covered Terminals	No. BB Wood Molding Base	No. BW Base for 1/2 in. and 3/4 in. Tablets
								
	\$0.18-B2-100 Carton 10	\$0.18-B2-250 Carton 50	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-250 Carton 10	\$0.36-B2-100 Carton 5	\$0.18-B2-100 Carton 10	\$0.23-B2-100 Carton 10
No. 45 Full Loop Socket Body 250 Watts, 250 Volts	No. AX-45 \$0.98-B2-100	No. AY-45 \$0.98-B2-100	No. AZ-45 \$1.03-B2-100	No. BA-45 B2-100 \$1.03	No. AW-45 \$1.03-B2-100	No. BY-45 \$1.16-B2-50	No. BB-45 \$0.98-B2-100	No. BW-45 \$1.03-B2-100
								
No. 32 Surface Socket Body with Spreader Outlet Each Outlet 660 Watts, 250 Volts	No. AX-32 \$0.66-B2-50	No. AY-32 \$0.66-B2-50	No. AZ-32 \$0.71-B2-50	No. BA-32 \$0.71-B2-50	No. AW-32 \$0.71-B2-50	No. BY-32 \$0.84-B2-50	No. BB-32 \$0.66-B2-50	No. BW-32 \$0.71-B2-50
								
No. 31 S.T. Knob Socket Body with Spreader Outlet Each Outlet 660 Watts, 250 Volts	No. AX-31 \$0.69-B2-50	No. AY-31 \$0.69-B2-50	No. AZ-31 \$0.74-B2-50	No. BA-31 \$0.74-B2-50	No. AW-31 \$0.74-B2-50	No. BY-31 \$0.87-B2-50	No. BB-31 \$0.69-B2-50	No. BW-31 \$0.74-B2-50
								
No. 33 Full Socket Body with Spreader Outlet	No. AX-33 \$0.96-B2-50	No. AY-33 \$0.96-B2-50	No. AZ-33 \$1.01-B2-50	No. BA-33 \$1.01-B2-50	No. AW-33 \$1.01-B2-50	No. BY-33 \$1.14-B2-50	No. BB-33 \$0.96-B2-50	No. BW-33 \$1.01-B2-50
								
No. 29 Spreader Plug Receptacle Body 10 Amps, 250 Volts	No. AX-29 \$0.56-H2-20	No. AY-29 \$0.56-H2-20	No. AZ-29 \$0.61-H2-20	No. BA-29 \$0.61-H2-20	No. AW-29 \$0.61-H2-20	No. BY-29 \$0.74-H2-20	No. BB-29 \$0.56-H2-20	No. BW-29 \$0.61-H2-20
								
No. 26 Receptacle Body 10 Amps, 250 Volts	No. AX-26 \$0.31-H2-20	No. AY-26 \$0.31-H2-20	No. AZ-26 \$0.36-H2-20	No. BA-26 \$0.36-H2-20	No. AW-26 \$0.36-H2-20	No. BY-26 \$0.49-H2-20	No. BB-26 \$0.31-H2-20	No. BW-26 \$0.36-H2-20
								
No. 25 Full Socket Receptacle Body 1 Amp, 120 Volts 1 Amp, 250 Volts	No. AX-25 \$0.71-H2-20	No. AY-25 \$0.71-H2-20	No. AZ-25 \$0.76-H2-20	No. BA-25 H2-20 \$0.76	No. AW-25 \$0.76-H2-20	No. BY-25 \$0.89-H2-50	No. BB-25 \$0.71-H2-20	No. BW-25 \$0.76-H2-20
								

\*Each outlet 660 Watts, 250 Volts.

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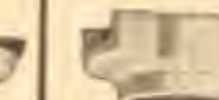






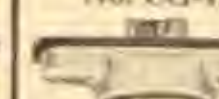
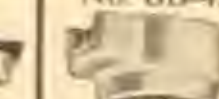
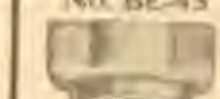

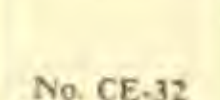
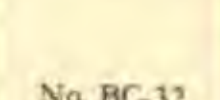
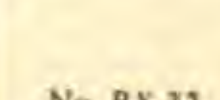


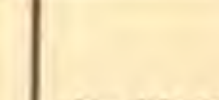
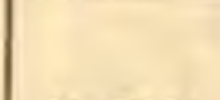

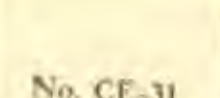
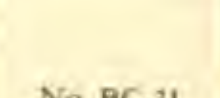
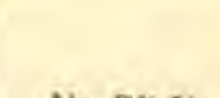

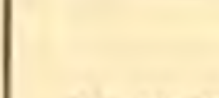
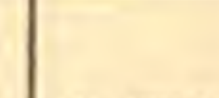
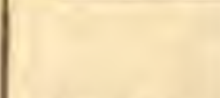

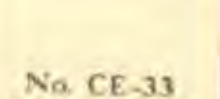
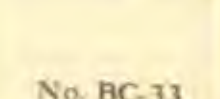
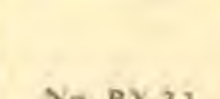
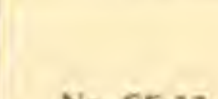
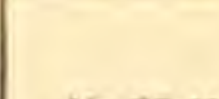
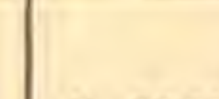
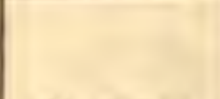

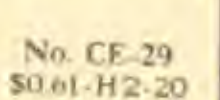
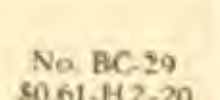
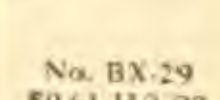
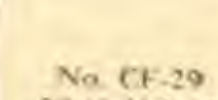
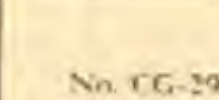
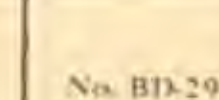
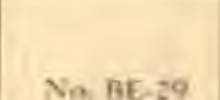

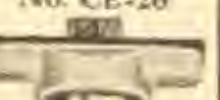
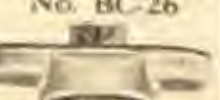
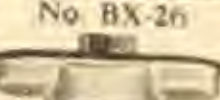
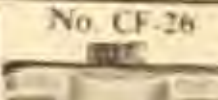
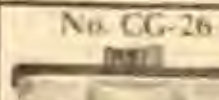
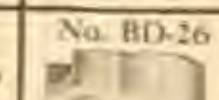
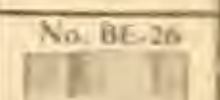

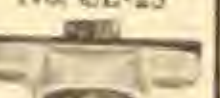
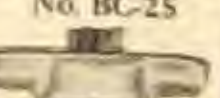
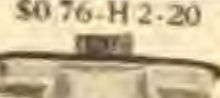
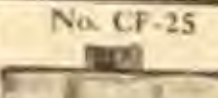
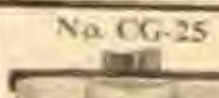
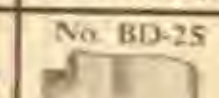
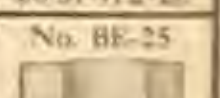


## BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. CE Base for Type 9400 Adapt Boxes	No. BC Base for 1/2-in. and 5/8-in. Oround Conductors	No. BX Base for 1/2-in. Oround Conductors	No. CF Base for 1/2-in. Rectangular Units	No. CG Base for 1/2-in. Rectangular Units	No. BD One-Way National Molding Base	No. BE Two-Way National Molding Base
							
	\$0.23-B 2-100 Carton 10	\$0.23-B 2-100 Carton 10	\$0.23-B 2-100 Carton 10	\$0.23-B 2-100 Carton 10	\$0.23-B 2-100 Carton 10	\$0.18-B 2-100 Carton 10	\$0.18-B 2-100 Carton 10
No. 45 Pull Lock Socket Body 250 Watts, 250 Volts	No. CE-45	No. BC-45	No. BX-45	No. CF-45	No. CG-45	No. BD-45	No. BE-45
							
\$0.80-B 2-100 Carton 25	\$1.03-B 2-100	\$1.03-B 2-100	\$1.03-B 2-50	\$1.03-B 2-100	\$1.03-B 2-100	\$0.98-B 2-100	\$0.98-B 2-100
No. 32 Keyless Socket Body with Spartan Outlet Each Outlet 660 Watts, 250 Volts	No. CE-32	No. BC-32	No. BX-32	No. CF-32	No. CG-32	No. BD-32	No. BE-32
							
\$0.48-B 2-50 Carton 10	\$0.71-B 2-50	\$0.71-B 2-50	\$0.71-B 2-50	\$0.71-B 2-50	\$0.71-B 2-50	\$0.66-B 2-50	\$0.66-B 2-50
No. 31 Q.T. Key Socket Body with Spartan Outlet Each Outlet 660 Watts, 250 Volts	No. CE-31	No. BC-31	No. BX-31	No. CF-31	No. CG-31	No. BD-31	No. BE-31
							
\$0.51-B 2-50 Carton 10	\$0.74-B 2-50	\$0.74-B 2-50	\$0.74-B 2-50	\$0.74-B 2-50	\$0.74-B 2-50	\$0.69-B 2-50	\$0.69-B 2-50
No. 33 Pull Socket Body with Spartan Outlet	No. CE-33	No. BC-33	No. BX-33	No. CF-33	No. CG-33	No. BD-33	No. BE-33
							
\$0.78-B 2-50 Carton 10	\$1.01-B 2-50	\$1.01-B 2-50	\$1.01-B 2-50	\$1.01-B 2-50	\$1.01-B 2-50	\$0.96-B 2-50	\$0.96-B 2-50
No. 29 Spartan Plug Receptacle Body 10 Amp, 250 Volts	No. CE-29	No. BC-29	No. BX-29	No. CF-29	No. CG-29	No. BD-29	No. BE-29
							
\$0.38-H 2-20 Carton 10	\$0.61-H 2-20	\$0.61-H 2-20	\$0.61-H 2-20	\$0.61-H 2-20	\$0.61-H 2-20	\$0.56-H 2-20	\$0.56-H 2-20
No. 26 Recept Body 3 Amp, 250 Volts	No. CE-26	No. BC-26	No. BX-26	No. CF-26	No. CG-26	No. BD-26	No. BE-26
							
\$0.13-H 2-20 Carton 10	\$0.36-H 2-20	\$0.36-H 2-20	\$0.36-H 2-20	\$0.36-H 2-20	\$0.36-H 2-20	\$0.31-H 2-20	\$0.31-H 2-20
No. 25 Pull Switch Recept Body 1 Amp, 125 Volts 1 Amp, 250 Volts	No. CE-25	No. BC-25	No. BX-25	No. CF-25	No. CG-25	No. BD-25	No. BE-25
							
\$0.53-H 2-100 Carton 10	\$0.76-H 2-20	\$0.76-H 2-20	No. BX-25	\$0.76-H 2-20	\$0.76-H 2-20	\$0.71-H 2-20	\$0.71-H 2-20

\*Each outlet 660 Watts, 250 Volts.

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.
































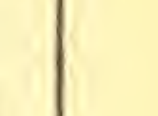

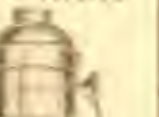
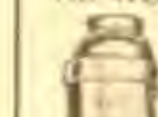

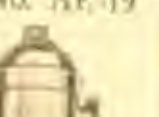
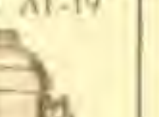
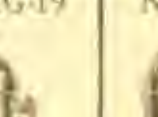
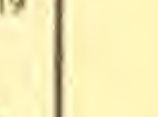
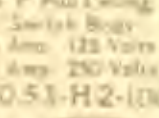
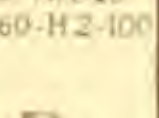
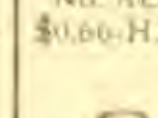
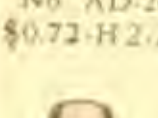
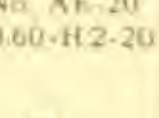
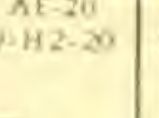
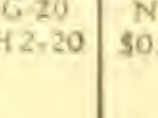
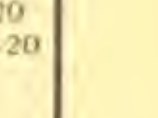








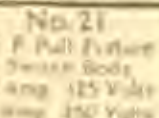
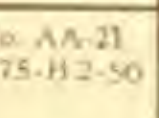
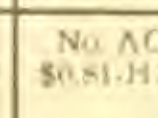
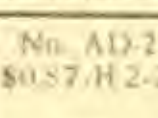
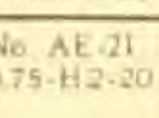
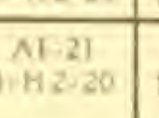
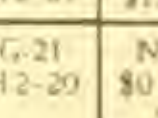
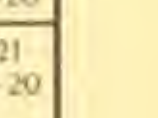





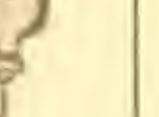


For more complete listings of bodies and caps, including ratings, see previous pages.



# BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

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	No. AA 1/2 in. Female Cap	No. AB 3/4 in. Female Cap	No. AC 1 in. Female Cap	No. AD 1 1/4 in. Female Cap	No. AE 1 1/2 in. Male Cap	No. AF 1 3/4 in. Male Cap	No. AG 2 in. Male Cap	No. AH 2 1/2 in. Male Cap
								
	\$0.07-B2-500 Carton 25	\$0.16-B2-100 Carton 25	\$0.13-B2-250 Carton 25	\$0.19-B2-50 Carton 25	\$0.07-B2-100 Carton 25	\$0.16-B2-50 Carton 25	\$0.16-B2-100 Carton 25	\$0.22-B2-50 Carton 25
No. 18 Key-Well Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts								
	\$0.33-H2-50 Carton 10	\$0.42-H2-20	\$0.39-H2-20	\$0.45-H2-20	\$0.33-H2-20	\$0.42-H2-20	\$0.42-H2-20	\$0.48-H2-20
No. 22 Key-Well Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts								
	\$0.33-H2-50 Carton 10	\$0.42-H2-20	\$0.39-H2-20	\$0.45-H2-20	\$0.33-H2-20	\$0.42-H2-20	\$0.42-H2-20	\$0.48-H2-20
No. 24 Full-Well Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts								
	\$0.53-H2-50 Carton 10	\$0.60-H2-50	\$0.69-H2-20	\$0.66-H2-20	\$0.72-H2-20	\$0.60-H2-20	\$0.69-H2-20	\$0.75-H2-20
No. 19 Full-Well Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts								
	\$0.53-H2-50 Carton 10	\$0.60-H2-50	\$0.69-H2-20	\$0.66-H2-20	\$0.72-H2-20	\$0.60-H2-20	\$0.69-H2-20	\$0.75-H2-20
No. 20 5 P. Pull Cord Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts								
	\$0.53-H2-100 Carton 10	\$0.60-H2-100	\$0.69-H2-20	\$0.66-H2-20	\$0.72-H2-20	\$0.60-H2-20	\$0.69-H2-20	\$0.75-H2-20
No. 27 Climaxer Pull Cord Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts								
	\$0.83-H2-50 Carton 10	No. AA-27 \$0.90-H2-50	No. AB-27 \$0.99-H2-20	No. AC-27 \$0.96-H2-20	No. AD-27 \$1.02-H2-20	No. AE-27 \$0.90-H2-20	No. AF-27 \$0.99-H2-20	No. AG-27 \$0.99-H2-20
No. 21 5 P. Pull Future Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts								
	\$0.68-H2-50 Carton 10	No. AA-21 \$0.75-H2-50	No. AB-21 \$0.84-H2-20	No. AC-21 \$0.81-H2-20	No. AD-21 \$0.87-H2-20	No. AE-21 \$0.75-H2-20	No. AF-21 \$0.84-H2-20	No. AG-21 \$0.84-H2-20
No. 28 Climaxer Pull Future Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts								
	\$0.98-H2-50 Carton 10	No. AA-28 \$1.05-H2-50	No. AB-28 \$1.14-H2-20	No. AC-28 \$1.11-H2-20	No. AD-28 \$1.17-H2-20	No. AE-28 \$1.05-H2-20	No. AF-28 \$1.14-H2-20	No. AG-28 \$1.14-H2-20
								No. AH-28 \$1.20-H2-20

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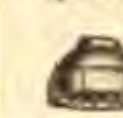
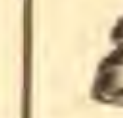
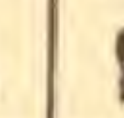

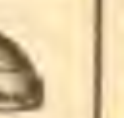
























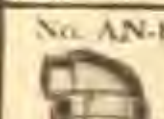
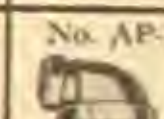
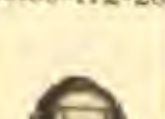

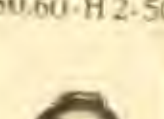
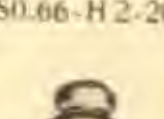
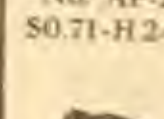
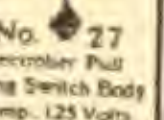







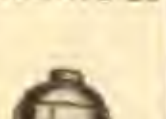
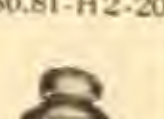
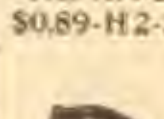
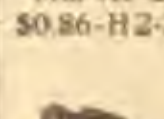
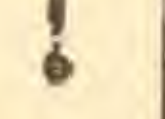


For more complete listings of bodies and caps, including ratings, see previous pages.



BRYANT NEW WRINKLE LINE  
NATIONAL ELECTRICAL CODE STANDARD

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	No. AT Pendant Cap 1 1/2 in. Hole	No. AU Strain Relief Cap 1 1/2 in. Hole	No. CB Strain Relief Cap 1 1/2 in. Hole	No. AK 1/2 in. Fixture Cap	No. AL 1/2 in. Fixture Cap	No. AM 1/2 in. Angle Cap	No. AN 1/2 in. Angle Cap	No. AP 3/4 in. Angle Cap
								
	\$0.07-B2-500 Carton 25	\$0.07-B2-500 Carton 25	\$0.07-B2-100 Carton 25	\$0.13-B2-100 Carton 25	\$0.16-B2-100 Carton 25	\$0.12-B2-100 Carton 25	\$0.21-B2-50 Carton 25	\$0.18-B2-50 Carton 25
No. 18 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AT-18	No. AU-18	No. CB-18	No. AK-18	No. AL-18	No. AM-18	No. AN-18	No. AP-18
								
\$0.26-H2-50 Carton 10	\$0.33-H2-20	\$0.33-H2-20	\$0.33-H2-50	\$0.39-H2-20	\$0.42-H2-20	\$0.38-H2-20	\$0.47-H2-20	\$0.44-H2-20
No. 22 Key Ceiling Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AT-22	No. AU-22	No. CB-22	No. AK-22	No. AL-22	No. AM-22	No. AN-22	No. AP-22
								
\$0.26-H2-50 Carton 10	\$0.33-H2-20	\$0.33-H2-20	\$0.33-H2-50	\$0.39-H2-20	\$0.42-H2-20	\$0.38-H2-20	\$0.47-H2-20	\$0.44-H2-20
No. 24 Pull Ceiling Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AT-24	No. AU-24	No. CB-24	No. AK-24	No. AL-24	No. AM-24	No. AN-24	No. AP-24
								
\$0.53-H2-50 Carton 10	\$0.60-H2-20	\$0.60-H2-20	\$0.60-H2-50	\$0.66-H2-20	\$0.69-H2-20	\$0.65-H2-20	\$0.74-H2-20	\$0.71-H2-20
No. 19 Pull Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AT-19	No. AU-19	No. CB-19	No. AK-19	No. AL-19	No. AM-19	No. AN-19	No. AP-19
								
\$0.53-H2-50 Carton 10	\$0.60-H2-20	\$0.60-H2-20	\$0.60-H2-50	\$0.66-H2-20	\$0.69-H2-20	\$0.65-H2-20	\$0.74-H2-20	\$0.71-H2-20
No. 20 S. P. Pull Ceiling Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AT-20	No. AU-20	No. CB-20	No. AK-20	No. AL-20	No. AM-20	No. AN-20	No. AP-20
								
\$0.53-H2-100 Carton 10	\$0.60-H2-20	\$0.60-H2-20	\$0.60-H2-50	\$0.66-H2-20	\$0.69-H2-20	\$0.65-H2-20	\$0.74-H2-20	\$0.71-H2-20
No. 27 Electron Pull Ceiling Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AT-27	No. AU-27	No. CB-27	No. AK-27	No. AL-27	No. AM-27	No. AN-27	No. AP-27
								
\$0.83-H2-50 Carton 10	\$0.90-H2-20	\$0.90-H2-20	\$0.90-H2-50	\$0.96-H2-20	\$0.99-H2-20	\$0.95-H2-20	\$1.04-H2-20	\$1.01-H2-20
No. 21 S. P. Pull Fixture Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AT-21	No. AU-21	No. CB-21	No. AK-21	No. AL-21	No. AM-21	No. AN-21	No. AP-21
								
\$0.68-H2-50 Carton 10	\$0.75-H2-20	\$0.75-H2-20	\$0.75-H2-50	\$0.81-H2-20	\$0.84-H2-20	\$0.80-H2-20	\$0.89-H2-20	\$0.86-H2-20
No. 28 Electron Pull Fixture Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AT-28	No. AU-28	No. CB-28	No. AK-28	No. AL-28	No. AM-28	No. AN-28	No. AP-28
								
\$0.98-H2-50 Carton 10	\$1.05-H2-20	\$1.05-H2-20	\$1.05-H2-50	\$1.11-H2-20	\$1.14-H2-20	\$1.10-H2-20	\$1.19-H2-20	\$1.16-H2-20

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

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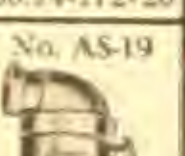

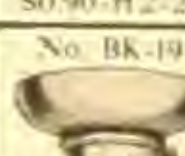
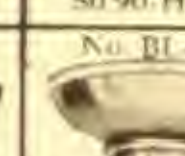

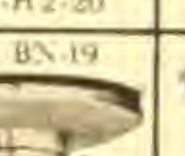
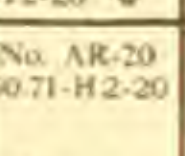
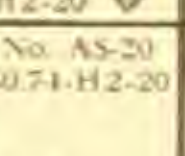
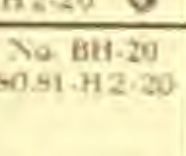
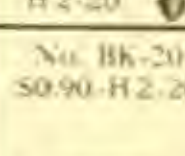
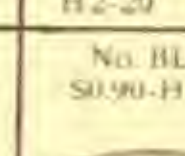
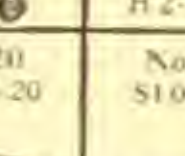
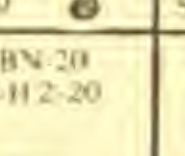





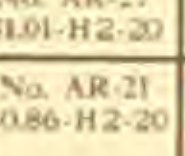
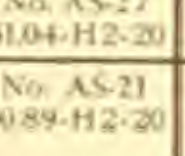
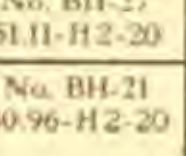
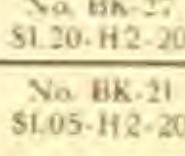
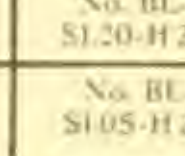
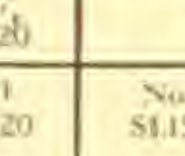
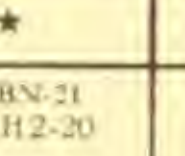







# BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

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	No. AR 1/4-in. Angle Furnace Cap	No. AS 1/4-in. Angle Furnace Cap	No. BH Small Covered Base	No. BK Large Covered Base	No. BL 3/4-in. Box Base	No. BN 3/4-in. Pancake Base	No. BM 4-in. Box Base
							
	\$0.18-B 2-50 Carton 25	\$0.21-B 2-50 Carton 25	\$0.28-B 2-250 Carton 10	\$0.37-B 2-100 Carton 10	\$0.37-B 2-100 Carton 10	\$0.47-B 2-50 Carton 10	\$0.67-B 2-100 Carton 5
No. 18 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts							
	\$0.44-H 2-20	\$0.47-H 2-20	\$0.54-H 2-20	\$0.63-H 2-20	\$0.63-H 2-20	\$0.73-H 2-20	\$0.93-H 2-20
No. 22 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts							
	\$0.44-H 2-20	\$0.47-H 2-20	\$0.54-H 2-20	\$0.63-H 2-20	\$0.63-H 2-20	\$0.73-H 2-20	\$0.93-H 2-20
No. 24 Pull Cord Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts							
	\$0.71-H 2-20	\$0.74-H 2-20	\$0.81-H 2-20	\$0.90-H 2-20	\$0.90-H 2-20	\$1.00-H 2-20	\$1.20-H 2-20
No. 19 Pull Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts							
	\$0.71-H 2-20	\$0.74-H 2-20	\$0.81-H 2-20	\$0.90-H 2-20	\$0.90-H 2-20	\$1.00-H 2-20	\$1.20-H 2-20
No. 20 S. P. Pull Ceiling Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts							
	\$0.71-H 2-20	\$0.74-H 2-20	\$0.81-H 2-20	\$0.90-H 2-20	\$0.90-H 2-20	\$1.00-H 2-20	\$1.20-H 2-20
No. 27 Electron Pull Ceiling Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts						★	★
	\$1.01-H 2-20	\$1.04-H 2-20	\$1.11-H 2-20	\$1.20-H 2-20	\$1.20-H 2-20		
No. 21 S. P. Pull Furture Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts							
	\$0.86-H 2-20	\$0.89-H 2-20	\$0.96-H 2-20	\$1.05-H 2-20	\$1.05-H 2-20	\$1.15-H 2-20	\$1.35-H 2-20
No. 28 Electron Pull Furture Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts						★	★
	\$1.16-H 2-20	\$1.19-H 2-20	\$1.26-H 2-20	\$1.35-H 2-20	\$1.35-H 2-20		

★ It is impractical to combine No. 27 or No. 28 Body with this Cap or Base

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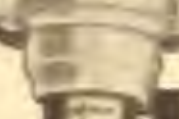











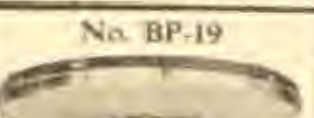
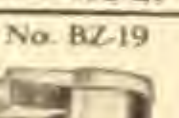
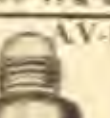
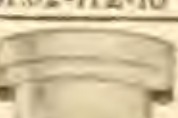
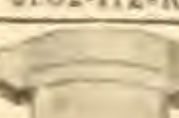
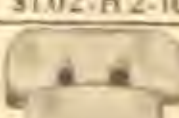
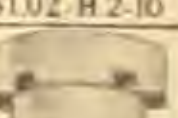
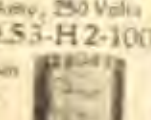
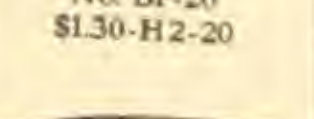
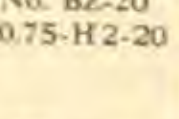
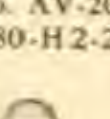
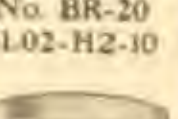
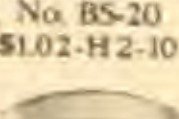
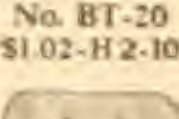
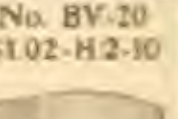
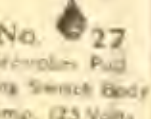

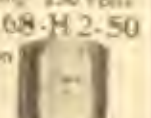
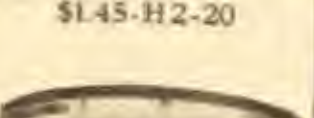
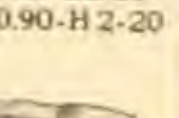
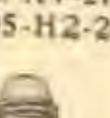
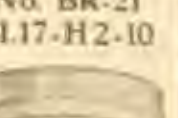
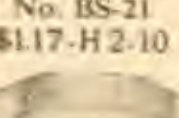
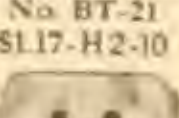
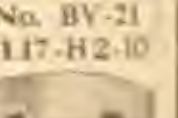
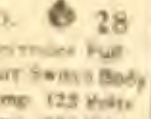

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	No. BP Aux. Pancake Base	No. BZ Canopy Top Base	No. AV Attachment Plug Cap	No. BR Concealed Fusible Rooster Base	No. BS Cast Fusible Rooster Base	No. BT Molding Fusible Rooster Base	No. BV Combination Fusible Rooster Base
							
	\$0.77-B2-50 Carton 5	\$0.22-B2-20 Carton 10	\$0.27-B2-50 Carton 10	\$0.49-B2-50 Carton 10	\$0.49-B2-50 Carton 10	\$0.49-B2-50 Carton 10	\$0.49-B2-50 Carton 10
No. 18 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. BP-18	No. BZ-18	No. AV-18	No. BR-18	No. BS-18	No. BT-18	No. BV-18
							
\$0.26-H2-50 Carton 10	\$1.03-H2-20	\$0.48-H2-20	\$0.53-H2-20	\$0.75-H2-10	\$0.75-H2-10	\$0.75-H2-10	\$0.75-H2-10
No. 22 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. BP-22	No. BZ-22	No. AV-22	No. BR-22	No. BS-22	No. BT-22	No. BV-22
							
\$0.26-H2-50 Carton 10	\$1.03-H2-20	\$0.48-H2-20	\$0.53-H2-20	\$0.75-H2-10	\$0.75-H2-10	\$0.75-H2-10	\$0.75-H2-10
No. 24 Pull Chain Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. BP-24	No. BZ-24	No. AV-24	No. BR-24	No. BS-24	No. BT-24	No. BV-24
							
\$0.51-H2-50 Carton 10	\$1.30-H2-20	\$0.75-H2-20	\$0.80-H2-20	\$1.02-H2-10	\$1.02-H2-10	\$1.02-H2-10	\$1.02-H2-10
No. 19 Pull Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. BP-19	No. BZ-19	No. AV-19	No. BR-19	No. BS-19	No. BT-19	No. BV-19
							
\$0.53-H2-50 Carton 10	\$1.30-H2-20	\$0.75-H2-20	\$0.80-H2-20	\$1.02-H2-10	\$1.02-H2-10	\$1.02-H2-10	\$1.02-H2-10
No. 20 S.P. Pull Chain Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. BP-20	No. BZ-20	No. AV-20	No. BR-20	No. BS-20	No. BT-20	No. BV-20
							
\$0.53-H2-100 Carton 10	\$1.30-H2-20	\$0.75-H2-20	\$0.80-H2-20	\$1.02-H2-10	\$1.02-H2-10	\$1.02-H2-10	\$1.02-H2-10
No. 27 Exterior Pull Chain Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	★	No. BZ-27 \$1.05-H2-20	★	★	★	★	★
							
\$0.83-H2-50 Carton 10		\$1.05-H2-20					
No. 21 S.P. Pull Chain Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. BP-21	No. BZ-21	No. AV-21	No. BR-21	No. BS-21	No. BT-21	No. BV-21
							
\$0.68-H2-50 Carton 10	\$1.45-H2-20	\$0.90-H2-20	\$0.95-H2-20	\$1.17-H2-10	\$1.17-H2-10	\$1.17-H2-10	\$1.17-H2-10
No. 28 Exterior Pull Chain Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	★	No. BZ-28 \$1.20-H2-20	★	★	★		★
							
\$0.98-H2-50 Carton 10		\$1.20-H2-20					

★ It is impractical to combine No. 27 or No. 28 Body with this Cap or Base

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish. For more complete listings of bodies and caps, including ratings, see previous pages.










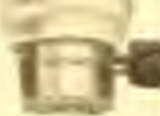

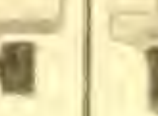



















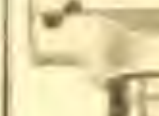

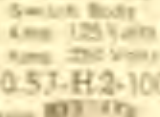
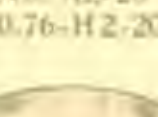
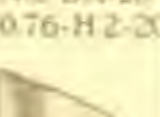

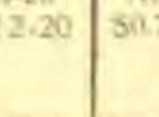



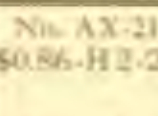
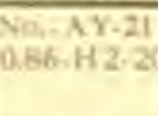
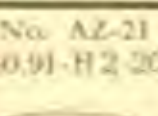
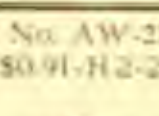
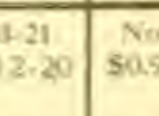






# BRYANT NEW WRINKLE LINE

## NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. AX Standard Base	No. AY Small Generalized Base	No. AZ Larger Generalized Base	No. BA Angle Generalized Base	No. AW Clash Base	No. BY Clash Base with Generalized Terminal	No. BB Wood Mounting Base	No. BW Base for 1/2 in. and 3/4 in. Taps
								
	\$0.18-H2-250 Capless 10	\$0.18-H2-250 Capless 10	\$0.23-B2-100 Capless 10	\$0.23-B2-100 Capless 10	\$0.23-B2-250 Capless 10	\$0.36-B2-100 Capless 10	\$0.18-B2-100 Capless 10	\$0.23-B2-100 Capless 10
No. 18 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AX-18 \$0.44-H2-20	No. AY-18 \$0.44-H2-20	No. AZ-18 \$0.49-H2-20	No. BA-18 \$0.49-H2-20	No. AW-18 \$0.49-H2-20	No. BY-18 \$0.62-H2-50	No. BB-18 \$0.44-H2-20	No. BW-18 \$0.49-H2-20
								
\$0.26-H2-50 Capless 10								
No. 22 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AX-22 \$0.44-H2-20	No. AY-22 \$0.44-H2-20	No. AZ-22 \$0.49-H2-20	No. BA-22 \$0.49-H2-20	No. AW-22 \$0.49-H2-20	No. BY-22 \$0.62-H2-50	No. BB-22 \$0.44-H2-20	No. BW-22 \$0.49-H2-20
								
\$0.26-H2-50 Capless 10								
No. 24 Full Canister Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AX-24 \$0.71-H2-20	No. AY-24 \$0.71-H2-20	No. AZ-24 \$0.76-H2-20	No. BA-24 \$0.76-H2-20	No. AW-24 \$0.76-H2-20	No. BY-24 \$0.89-H2-50	No. BB-24 \$0.71-H2-20	No. BW-24 \$0.76-H2-20
								
\$0.53-H2-50 Capless 10								
No. 19 Full Canister Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AX-19 \$0.71-H2-20	No. AY-19 \$0.71-H2-20	No. AZ-19 \$0.76-H2-20	No. BA-19 \$0.76-H2-20	No. AW-19 \$0.76-H2-20	No. BY-19 \$0.89-H2-50	No. BB-19 \$0.71-H2-20	No. BW-19 \$0.76-H2-20
								
\$0.53-H2-50 Capless 10								
No. 20 S. P. Full Canister Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AX-20 \$0.71-H2-20	No. AY-20 \$0.71-H2-20	No. AZ-20 \$0.76-H2-20	No. BA-20 \$0.76-H2-20	No. AW-20 \$0.76-H2-20	No. BY-20 \$0.89-H2-50	No. BB-20 \$0.71-H2-20	No. BW-20 \$0.76-H2-20
								
\$0.53-H2-100 Capless 10								
No. 27 Domestic Full Canister Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AX-27 \$1.01-H2-20	No. AY-27 \$1.01-H2-20	No. AZ-27 \$1.06-H2-20	No. BA-27 \$1.06-H2-20	★	★	No. BB-27 \$1.01-H2-20	★
								
\$0.83-H2-50 Capless 10								
No. 21 S. P. Full Canister Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AX-21 \$0.86-H2-20	No. AY-21 \$0.86-H2-20	No. AZ-21 \$0.91-H2-20	No. BA-21 \$0.91-H2-20	No. AW-21 \$0.91-H2-20	No. BY-21 \$1.04-H2-50	No. BB-21 \$0.86-H2-20	No. BW-21 \$0.91-H2-20
								
\$0.68-H2-50 Capless 10								
No. 28 Domestic Full Canister Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts	No. AX-28 \$1.16-H2-20	No. AY-28 \$1.16-H2-20	No. AZ-28 \$1.21-H2-20	No. BA-28 \$1.21-H2-20	★	★	No. BB-28 \$1.16-H2-20	★
								
\$0.98-H2-50 Capless 10								

★ It is impractical to combine No. 27 or No. 28 Body with this Cap or Base

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.




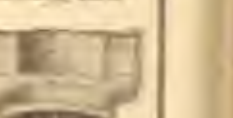






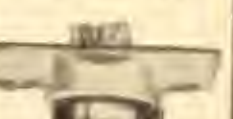
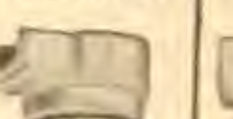
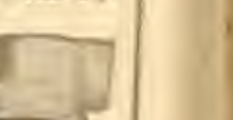
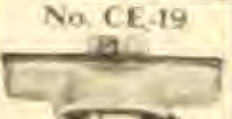
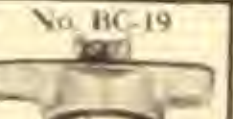
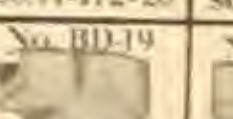


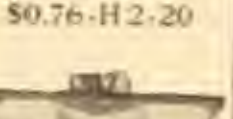
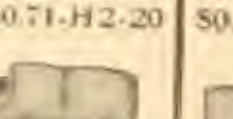
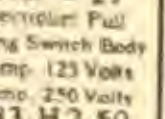

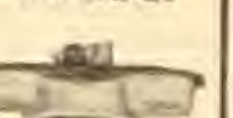
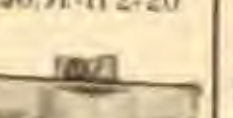
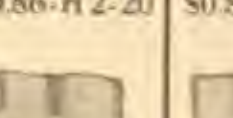


## BRYANT NEW WRINKLE LINE

### NATIONAL ELECTRICAL CODE STANDARD

The devices composing the New Wrinkle Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. CE Base for Type 4400 Adapted Boxes	No. BC Base for 1/2-in. and 3/4-in. Round Conduits	No. BX Base for 1/2-in. Round Conduits	No. CF Base for 1/2-in. Rectangular Conduits	No. CG Base for 1/2-in. Rectangular Conduits	No. BD One-Way National Molding Base	No. BE Two-Way National Molding Base
							
	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.23-B2-100 Carton 10	\$0.18-B2-100 Carton 10	\$0.18-B2-100 Carton 10
No. 18 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts 	No. CE-18 	No. BC-18 	No. BX-18 	No. CF-18 	No. CG-18 	No. BD-18 	No. BE-18 
\$0.26-H2-50 Carton 10	\$0.19-H2-20	\$0.49-H2-20	\$0.49-H2-20	\$0.49-H2-20	\$0.49-H2-20	\$0.44-H2-20	\$0.44-H2-20
No. 22 Key Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts 	No. CE-22 	No. BC-22 	No. BX-22 	No. CF-22 	No. CG-22 	No. BD-22 	No. BE-22 
\$0.26-H2-50 Carton 10	\$0.49-H2-20	\$0.49-H2-20	\$0.49-H2-20	\$0.49-H2-20	\$0.49-H2-20	\$0.44-H2-20	\$0.44-H2-20
No. 24 Pull Chain Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts 	No. CE-24 	No. BC-24 	No. BX-24 	No. CF-24 	No. CG-24 	No. BD-24 	No. BE-24 
\$0.53-H2-50 Carton 10	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.71-H2-20	\$0.71-H2-20
No. 19 Pull Wall Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts 	No. CE-19 	No. BC-19 	No. BX-19 	No. CF-19 	No. CG-19 	No. BD-19 	No. BE-19 
\$0.53-H2-50 Carton 10	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.71-H2-20	\$0.71-H2-20
No. 20 S.P. Pull Ceiling Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts 	No. CE-20 	No. BC-20 	No. BX-20 	No. CF-20 	No. CG-20 	No. BD-20 	No. BE-20 
\$0.53-H2-100 Carton 10	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.76-H2-20	\$0.71-H2-20	\$0.71-H2-20
No. 27 Electrode Pull Ceiling Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts 	★	★	★	★	★	★	★
No. 21 S.P. Pull Fixture Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts 	No. CE-21 	No. BC-21 	No. BX-21 	No. CF-21 	No. CG-21 	No. BD-21 	No. BE-21 
\$0.68-H2-50 Carton 10	\$0.91-H2-20	\$0.91-H2-20	\$0.91-H2-20	\$0.91-H2-20	\$0.91-H2-20	\$0.86-H2-20	\$0.86-H2-20
No. 28 Electrode Pull Fixture Switch Body 3 Amp. 125 Volts 1 Amp. 250 Volts 	★	★	★	★	★	★	★
\$0.98-H2-50 Carton 10	★	★	★	★	★	★	★

★ It is impractical to combine No. 27 or No. 28 Body with this Cap or Base

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

For more complete listings of bodies and caps, including ratings, see previous pages.



## BRYANT SPECIAL SOCKETS

NATIONAL ELECTRICAL CODE STANDARD



Socket with 1 1/4-Inch Key

### DEVICES FOR EXTRA LONG KEYS

New Wrinkle and Wrinklet key type devices have keys 1 inch long but can be fitted with keys 1 1/4, 1 1/2, 2, 2 1/2 inches long on special order. Specify distance between outside of shell and end of key; otherwise, if extra long keys are ordered, 1 1/2-inch keys will be supplied. For devices with keys longer than 1 inch add to list \$0.05. Standard package quantity 100. No assortment permitted. Keys for Candelabra and Miniature base devices are 1 1/16 inch long and cannot be furnished otherwise.

### DEVICES WITH REMOVABLE PUSH BUTTONS



Socket with Removable Buttons

New Wrinkle Mfrs. Nos. 34 and 44 and Wrinklet Mfrs. Nos. 81, 87, and 96 can be supplied on special order with removable buttons which are 2 1/4 inches long over all. For devices with removable buttons add to list price \$0.07. Standard package quantity 100. No assortment permitted.

### DEVICES WITH METAL KEYS



Socket with Metal Key

New Wrinkle and Candelabra type key devices can be fitted with metal keys. The metal keys are detachable so they can be finished like the device or the fixture. The standard metal key is 1 inch from the end of the key to the shell. 1 1/4, 1 1/2, 2 or 2 1/2-inch keys can be furnished on special order. For devices with 1-inch metal keys add to list \$0.10. For devices with metal keys longer than 1 inch add to list \$0.15. Standard package 100 of one length. No assortment permitted.

### DEVICES FOR SPECIAL METAL KEYS

New Wrinkle, Wrinklet and Candelabra base key type devices can be furnished with extension mandrels designed to receive special metal keys (furnished by the fixture manufacturer) at an addition to list of \$0.07. The threaded part of the mandrel is thoroughly insulated from the other parts of the device. The threaded portion is 3/4 inch in diameter, 26 threads per inch. Standard package quantity 100. No assortment permitted.

### PULL DEVICES WITH CHAIN GUIDES



Socket for Special Metal Key

Pull devices installed in husks or covers require extension chain guides to carry the chain free of cover and shade. Extension chain guides can be furnished for New Wrinkle, Wrinklet and Candelabra type sockets in 3/8, 3/4, 1, 1 1/4 and 1 1/2-inch lengths and are interchangeable one with the other upon sockets of the same size. Extension chain guides are of different sizes for the New Wrinkle, Wrinklet and Candelabra base sockets and will not interchange on the different sizes of sockets. Chain guides can be easily detached for refinishing and by carrying a stock of various lengths of extension guides it is unnecessary to stock completed sockets with various lengths of chain guides. For pull sockets with extension chain guides, any length, add \$0.10 to list price of socket. Standard package quantity, 50 of one length, 100 of assorted lengths. Sockets with extension chain guides may not be combined with sockets having regular chain guides to make up a standard package quantity. Standard chain guides, when sold separately from the socket, list \$0.05 each, Schedule H2, standard package 250.



Socket with Extension Chain Guide

Extension chain guides, when sold separately from the socket list \$0.15 each, Schedule H2, standard package quantity 50 of one length, 100 of assorted lengths.



## BRYANT SPECIAL SOCKETS

## PULL DEVICES WITH INSULATED CHAIN

Pull devices can be furnished with insulated chain, accomplished by inserting Mfrs. No. 513 about 2 inches below the chain guide. For devices with insulated chains add to list price \$0.15. Standard package quantity will be the same as the regular article and devices so equipped may be assorted with devices of regular or special length chains to make up the standard package quantity.

## PULL DEVICES WITH LINEN CORD

Devices fitted with 8 inches of chain and a brass ball can also be furnished with a short chain, a No. 510 connector, three feet of linen cord and a composition ball at the regular list price. For cords longer than 3 feet, add to list price per foot \$0.01. Standard package quantity will be the same as the regular article and such devices may be assorted with devices with chains of various lengths to make up the standard package quantity.

The standard length of chain on all pull devices, except as otherwise noted, is 8 inches. Devices with chains shorter than 8 inches will be sold at the same price as regular.

For devices with chains longer than 8 inches, add to list price per foot of extra chain per device, \$0.10. For special finishes on chains longer than 8 inches, add to list price per foot of extra chain per device, \$0.05.

The standard package quantity will be the same as for standard length. Devices with standard and special length chains may be assorted to make up the standard package quantity.

## PULL SOCKET CHAINS AND PARTS—SCHEDULE H2

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs.	Price Each
088190		Bead chain (per foot)		1000 ft.		\$0.05
088191	510	Splicing link	200	200	4	.02 <sup>1</sup> / <sub>2</sub>
088192	512	Snap-lock ball	250	250	16	.06
088194	516	Snap-lock ball for candleabra chain	50	50	4	.06
088193	513	Insulating link	100	100	12	.08
088195	750	Luminous Pendant	50	250		.18

Standard finish on the above is brush brass, which will be supplied when no other finish is specified. All other finishes will be special and charged extra as follows: Chain, 5 cents per foot; balls and links, 4 cents each.

All New Wrinkle and Wrinklet Pull Sockets are supplied with the No. 512 ball. It may be detached and attached with the utmost ease, when necessary, but cannot be detached by any strain to which it will be subjected in service, no matter how severe.

SOCKETS FOR MAZDA GAS-FILLED LAMPS  
SCHEDULE B2

Sockets for Mazda C gas-filled lamps must be waxed with a compound which will not soften under heat. The mogul base sockets are regularly so made. For medium base sockets to be used with these lamps add 3 cents to list price. Standard Package same as regular article. Assortment permitted.

## SOCKETS WITH LAMP GRIP—SCHEDULE B2

All mogul base sockets and most medium base sockets can be equipped with a lamp grip, as illustrated, which effectually prevents the lamp from accidentally unscrewing. For sockets so equipped add 5 cents to list price. Standard Package same as regular article. Assortment permitted.

## SOCKET CAPS WITH SPECIAL BUSHINGS

Most caps of brass shell sockets can be furnished with insulated bushing, as illustrated. The purpose of this construction is to provide a passage for the conductors when the support for the socket is a rod instead of a pipe or tube. For sockets so equipped add 2 cents to list price. Standard Package same as regular article. Assortment permitted.



Pull Socket with Insulated Chain



Pull Socket with Short Chain and Linen Cord



No. 510



No. 512



No. 513



Exposed View of Socket Interior in Cap Illustrating Lamp Grip Feature



Socket Cap with Side Outlet Bushing



## BRYANT SPECIAL FINISHES

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one Mfrs. No. may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.

Prices on all other special finishes than those listed, including gold, will be quoted on application, and sample of finish desired should always be submitted in order to avoid mistakes and delays.

Finish	Class	Finish	Class
Barff, Bauer	B	Copper, Brush	B
Brass, Sand Blast Antique	E	Copper, Oxidized	B
Brass, Sand Blast Brush	D	Copper, Polished	B
Brass, Flemish	B	Enamel, White	G
Brass, Lemon	A	Gilt, Rich	A
Brass, Oxidized	B	Gun Metal	B
Brass, Polished	A	Nickel, Dull	B
Bronze, Japanese (Dark)	C	Nickel, Polished	B
Bronze, Brush	B	Silver, Butler's (Brushed)	F
Bronze, Polished	B	Silver, Satin	G
Bronze, Statuary (Light)	C	Silver, Oxidized	F
Copper, Antique	C	Silver, Polished	F
Copper, Mottled	B	Verde-Antique	G

### PRICES TO BE ADDED TO LIST

Classification	Flush Plates	Keyless and Push Devices Complete with Caps	Pull Devices Complete with Caps	Keyless and Push Bodies and Shade Holders	Pull Bodies	Socket Caps	One-piece Wall and Ceiling Sockets and Receptacles and New Wrinkle Bases	Metal Covered Attachment Plug Caps 10-amp. Caps	20 and 25 amp. Caps
A	\$0.12	\$0.06	\$0.07	\$0.03	\$0.04	\$0.03	\$0.12	\$0.04	\$0.08
B	.15	.10	.12	.05	.07	.05	.16	.08	.15
C	.20	.16	.20	.08	.12	.08	.25	.10	.19
D	.25	.18	.22	.09	.13	.09	.28	.08	.16
E	.30	.22	.26	.11	.15	.11	.30	.12	.25
F	.50	.20	.30	.10	.20	.10	.25	.14	.27
G		.28	.32	.14	.18	.14	.30	.18	.36

For White Enamel Plates, add \$0.30; Verde Antique, \$0.50; Satin Silver, \$0.50. These charges and those in the above table applying to Flush Plates, cover the additional to list for all single gang plates. For multiple gang plates, these charges cover the first gang only; for the second or any additional units of a multiple gang plate, the charge is \$0.10 list per gang for all special finishes except gold.

When ordered in lots of 500 of one Mfrs. Number and one finish, the extra for the special finish only will be reduced 10 per cent.

### MISCELLANEOUS PARTS

















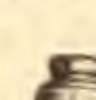

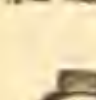


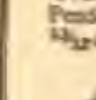



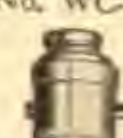

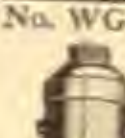
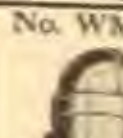
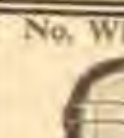
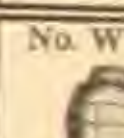





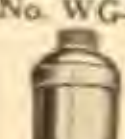
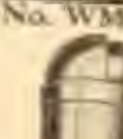
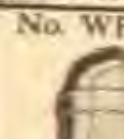
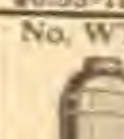
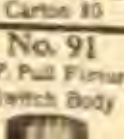
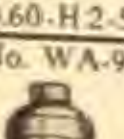
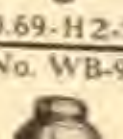
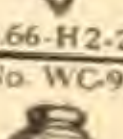
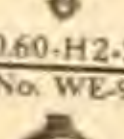
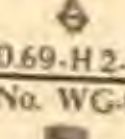
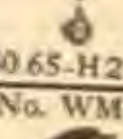
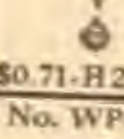
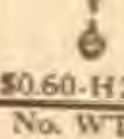
Trade No.	Description	Schedule	Std. Pkg.	Price per Ft. or Each	Add for Special Finish
195260	1-inch metal key	B2	100	\$0.05	\$0.05
195261	1 1/4-inch metal key	B2	100	.10	.05
195262	1 1/2-inch metal key	B2	100	.10	.05
195263	2-inch metal key	B2	100	.10	.05
195264	2 1/2-inch metal key	B2	100	.10	.05
195265	Chain for medium base pull devices, per foot	H2	1000 ft.	.05	.05
195266	Chain for candelabra and miniature base pull devices, per foot	H2	1000 ft.	.05	.05
195267	Standard chain guide for all pull devices	H2	250	.05	.04
195268	3/8-inch extension guide	H2	50*	.15	.10
195269	3/4-inch extension guide	H2	50*	.15	.10
195270	1-inch extension guide	H2	50*	.15	.10
195271	1 1/4-inch extension guide	H2	50*	.15	.10
195272	1 1/2-inch extension guide	H2	50*	.15	.10
195273	8-inch pull chain with ball	H2	250	.13	.08
195274	8-inch pull chain with insulating link and ball	H2	250	.28	.12
195275	Short chain with 3 feet of linen cord and composition ball	H2	250	.13	.03
195276	Composition ball	H2	250	.06	
195277	Small size black linen cord	H2	1000 ft.	.01	

The standard finish on all metal parts listed above is brush brass which will be shipped when the finish is not specified.

\*100 extension chain guides of assorted lengths also constitute a standard package quantity.



BRYANT "WRINKLET" FIXTURE LINE  
NATIONAL ELECTRICAL CODE STANDARD

<b>No. WA</b> 1/8-in. Female Cap 	<b>No. WB</b> 1/4-in. Female Cap 	<b>No. WC</b> 3/8-in. Female Cap 	<b>No. WM</b> 1/8-in. Angle Cap 	<b>No. WP</b> 3/8-in. Angle Cap 	<b>No. WT</b> Pendant Cap 			
Price, Ea., \$0.07 Std. Pkg. 500 Wt., 25 Lbs. Schedule B2 Carton 25	Price, Ea., \$0.16 Std. Pkg. 100 Wt., 7 Lbs. Schedule B2 Carton 25	Price, Ea., \$0.13 Std. Pkg. 250 Wt., 18 Lbs. Schedule B2 Carton 25	Price, Ea., \$0.12 Std. Pkg. 100 Wt., 8 Lbs. Schedule B2 Carton 25	Price, Ea., \$0.18 Std. Pkg. 50 Wt., 5 Lbs. Schedule B2 Carton 25	Price, Ea., \$0.07 Std. Pkg. 500 Wt., 25 Lbs. Schedule B2 Carton 25			
<b>No. 80</b> Key Socket Body 250 W. 250 V. 	<b>No. 85</b> Pull Socket Body 250 W. 250 V. 	<b>No. 83</b> Keyless Socket Body 660 W. 250 V. 	<b>No. 90</b> S. P. Pull Switch Body 3 Amps 125 V. 1 Amp. 250 V. 					
Price Each, \$0.26 Std. Pkg. 500 Wt., 85 Lbs. Carton 25—Schedule B2	Price Each, \$0.53 Std. Pkg. 250 Wt., 47 Lbs. Carton 25—Schedule B2	Price Each, \$0.23 Std. Pkg. 500 Wt., 75 Lbs. Carton 25—Schedule B2	Price Ea., \$0.53 Std. Pkg. 50 Wt., 12 Lbs. Carton 10 Schedule H2					
<b>No. 86</b> Key Lock Socket Body 250 W. 250 V. 	<b>No. 81</b> Push Socket Body 660 W. 250 V. 	<b>No. 95</b> Short Keyless Socket Body 660 W. 250 V. 	<b>No. 91</b> S. P. Pull Fixture Switch Body 3 Amps., 125 V. 1 Amp., 250 V. 					
Price Each, \$0.53 Std. Pkg. 100 Wt., 20 Lbs. Carton 25—Schedule B2	Price Each, \$0.35 Std. Pkg. 500 Wt., 85 Lbs. Carton 25—Schedule B2	Price Each, \$0.23 Std. Pkg. 500 Wt., 60 Lbs. Carton 25—Schedule B2	Price Ea., \$0.68 Std. Pkg. 50 Wt., 12 Lbs. Carton .10 Schedule H2					
<b>No. WA</b> 1/8-in. Female Cap 	<b>No. WB</b> 1/4-in. Female Cap 	<b>No. WC</b> 3/8-in. Female Cap 	<b>No. WE</b> 1/8-in. Male Cap 	<b>No. WG</b> 3/8-in. Male Cap 	<b>No. WM</b> 1/8-in. Angle Cap 	<b>No. WP</b> 3/8-in. Angle Cap 	<b>No. WT</b> Pendant Cap 1/2-in. Male 	
\$0.07-B2-500 Carton 25	\$0.16-B2-100 Carton 25	\$0.13-B2-250 Carton 25	\$0.07-B2-50 Carton 25	\$0.16-B2-50 Carton 25	\$0.12-B2-100 Carton 25	\$0.18-B2-50 Carton 25	\$0.07-B2-500 Carton 25	
<b>No. 96</b> Push Candle-Switch Body 	<b>No. WA-96</b> 	<b>No. WB-96</b> 	<b>No. WC-96</b> 	<b>No. WE-96</b> 	<b>No. WG-96</b> 	<b>No. WM-96</b> 	<b>No. WP-96</b> 	<b>No. WT-96</b> 
\$0.26-H2-50 Carton 10	\$0.33-H2-50	\$0.42-H2-20	\$0.39-H2-20	\$0.33-H2-20	\$0.42-H2-20	\$0.38-H2-20	\$0.44-H2-20	\$0.33-H2-50
<b>No. 90</b> S. P. Pull Switch Body 	<b>No. WA-90</b> 	<b>No. WB-90</b> 	<b>No. WC-90</b> 	<b>No. WE-90</b> 	<b>No. WG-90</b> 	<b>No. WM-90</b> 	<b>No. WP-90</b> 	<b>No. WT-90</b> 
\$0.53-H2-50 Carton 10	\$0.60-H2-50	\$0.69-H2-20	\$0.66-H2-20	\$0.60-H2-20	\$0.69-H2-20	\$0.65-H2-20	\$0.71-H2-20	\$0.60-H2-50
<b>No. 91</b> S. P. Pull Fixture Switch Body 	<b>No. WA-91</b> 	<b>No. WB-91</b> 	<b>No. WC-91</b> 	<b>No. WE-91</b> 	<b>No. WG-91</b> 	<b>No. WM-91</b> 	<b>No. WP-91</b> 	<b>No. WT-91</b> 
\$0.68-H2-50 Carton 10	\$0.75-H2-50	\$0.84-H2-20	\$0.81-H2-20	\$0.75-H2-20	\$0.84-H2-20	\$0.80-H2-20	\$0.86-H2-20	\$0.75-H2-50




























































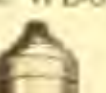
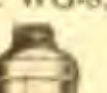


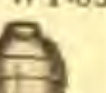
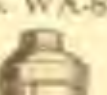
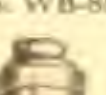
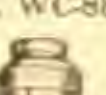
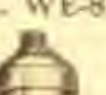
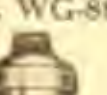

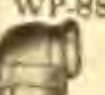
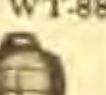
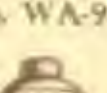
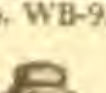
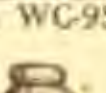
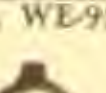
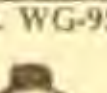

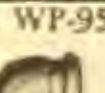
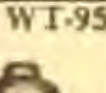


## BRYANT "WRINKLET" FIXTURE LINE

### NATIONAL ELECTRICAL CODE STANDARD

The devices composing the Wrinklet Line are not carried in stock assembled but the bodies, caps and bases are packed and shipped separately.

Combinations will be shipped assembled when so specified, without extra charge, but such orders will be subject to the delays which are usual in connection with goods that are not carried in stock.

	No. WA 3/16-in. Female Cap	No. WB 1/4-in. Female Cap	No. WC 3/16-in. Female Cap	No. WE 3/16-in. Male Cap	No. WG 3/16-in. Male Cap	No. WM 3/16-in. Angle Cap	No. WP 3/16-in. Angle Cap	No. WT Pendant Cap 1 3/16-in. Hole
								
	\$0.07-B2-500 Carton 25	\$0.16-B2-100 Carton 25	\$0.13-B2-250 Carton 25	\$0.07-B2-50 Carton 25	\$0.16-B2-50 Carton 25	\$0.12-B2-100 Carton 25	\$0.18-B2-50 Carton 25	\$0.07-B2-500 Carton 25
No. 81 Push Socket Body								
	\$0.42-B2-500 Carton 25	\$0.51-B2-250 Carton 25	\$0.48-B2-250 Carton 25	\$0.42-B2-500 Carton 25	\$0.51-B2-250 Carton 25	\$0.47-B2-100 Carton 25	\$0.53-B2-100 Carton 25	\$0.42-B2-500 Carton 25
No. 87 Push Lock Socket Body								
	\$0.62-B2-100 Carton 25	\$0.69-B2-100 Carton 25	\$0.75-B2-100 Carton 25	\$0.69-B2-100 Carton 25	\$0.78-B2-100 Carton 25	\$0.74-B2-100 Carton 25	\$0.80-B2-100 Carton 25	\$0.69-B2-100 Carton 25
No. 80 Key Socket Body								
	\$0.26-B2-500 Carton 25	\$0.33-B2-500 Carton 25	\$0.42-B2-250 Carton 25	\$0.33-B2-500 Carton 25	\$0.42-B2-250 Carton 25	\$0.38-B2-100 Carton 25	\$0.44-B2-100 Carton 25	\$0.33-B2-500 Carton 25
No. 86 Key Lock Socket Body								
	\$0.33-B2-100 Carton 25	\$0.60-B2-100 Carton 25	\$0.69-B2-100 Carton 25	\$0.60-B2-100 Carton 25	\$0.69-B2-100 Carton 25	\$0.65-B2-100 Carton 25	\$0.71-B2-100 Carton 25	\$0.60-B2-100 Carton 25
No. 83 Pull Socket Body								
	\$0.53-B2-250 Carton 25	\$0.60-B2-250 Carton 25	\$0.69-B2-100 Carton 25	\$0.60-B2-250 Carton 25	\$0.69-B2-100 Carton 25	\$0.65-B2-50 Carton 25	\$0.71-B2-50 Carton 25	\$0.60-B2-250 Carton 25
No. 89 Pull Lock Socket Body								
	\$0.80-B2-100 Carton 25	\$0.87-B2-100 Carton 25	\$0.96-B2-100 Carton 25	\$0.87-B2-100 Carton 25	\$0.96-B2-100 Carton 25	\$0.92-B2-50 Carton 25	\$0.98-B2-50 Carton 25	\$0.87-B2-100 Carton 25
No. 83 Standard Keyless Socket Body								
	\$0.23-B2-500 Carton 25	\$0.30-B2-500 Carton 25	\$0.39-B2-250 Carton 25	\$0.30-B2-500 Carton 25	\$0.39-B2-250 Carton 25	\$0.35-B2-100 Carton 25	\$0.41-B2-100 Carton 25	\$0.30-B2-500 Carton 25
No. 88 Standard Keyless Lock Socket Body								
	\$0.50-B2-100 Carton 25	\$0.57-B2-100 Carton 25	\$0.66-B2-100 Carton 25	\$0.57-B2-100 Carton 25	\$0.66-B2-100 Carton 25	\$0.62-B2-100 Carton 25	\$0.68-B2-100 Carton 25	\$0.57-B2-100 Carton 25
No. 95 Short Keyless Socket Body								
	\$0.23-B2-500 Carton 25	\$0.30-B2-500 Carton 25	\$0.39-B2-250 Carton 25	\$0.30-B2-500 Carton 25	\$0.39-B2-250 Carton 25	\$0.35-B2-100 Carton 25	\$0.41-B2-100 Carton 25	\$0.30-B2-500 Carton 25

The standard finish of all brass shell devices, unless otherwise noted, is brush brass, which will be supplied when the finish is not specified. Devices unfinished or polished, but not lacquered, will be supplied at same list prices as brush brass devices.

Standard and special finishes on devices of one catalogue number may be assorted to make up the standard package quantity, which will be the same as though all were standard finish.



## BRYANT BAYONET SHELL SOCKETS

## NATIONAL ELECTRICAL CODE STANDARD

Key and Pull Sockets, 250 Watts, 250 Volts—Keyless Sockets, 660 Watts, 250 Volts

## SCHEDULE B2



No. 9184



No. 4219



No. 9386



No. 50717



No. 60018



No. 60020



No. 4117

## PENDENT SOCKETS

## With 1/2-inch Cap

Trade No.	Mfrs. No.	Style	Carton	Std Pkg.	Wt., Lbs. Std. Pkg.	Price Each
065243	9386	Key	25	500	120	\$0.33
065244	9392	Keyless	25	500	107	.30
17830	35000	Pull	25	250	65	.50

## With 3/4-inch Cap

065245	50760	Key	25	250	65	.39
065246	50768	Keyless	25	250	60	.36
17831	35001	Pull	25	100	28	.56

## With Pendant Cap

065249	99386	Key	25	500	115	.33
065250	99392	Keyless	25	500	102	.30
17832	35040	Pull	25	250	60	.50

## WALL SOCKETS

## With Base for Concealed Work

17823	9184	Key	10	250	90	.44
17824	9185	Keyless	10	250	85	.41

Outside diameter of base is 2 1/8 inches.

Holes for supporting screws are spaced 1 5/8 inches on centers.

## Pony Wall Sockets

065432	50717	Keyless	10	250	66	.25
132794	4236	Keyless Lock	10	100	31	.52

Outside diameter of base is 2 inches.

Holes for supporting screws are spaced 1 1/4 inches on centers.

## With Small Covered Base for Concealed Work

17827	60018	Key	10	250	100	.44
132791	4218	Key Lock	10	100	45	.71
17828	60019	Keyless	10	250	90	.41
132792	4219	Keyless Lock	10	100	32	.68

Outside diameter of base is 2 3/8 inches.

Holes for supporting screws are spaced 1 5/8 inches on centers.

## With Large Covered Base for Concealed Work

17829	60020	Keyless	10	100	62	.60
132793	4220	Keyless Lock	10	100	67	.87

Outside diameter of base is 3 1/8 inches.

Holes for supporting screws are spaced 1 5/8 and 2 inches on centers.

132790	4117	Keyless*	10	100	28	.40
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\*For switchboard. Has 2-inch studs for rear connections.

Outside diameter of base is 2 1/8 inches.



# BRYANT TITAN SOCKETS

## SCHEDULE B2



No. 4201  
3/8 Actual Size



No. 4204  
Exploded View  
3/8 Actual Size

### KEY—250 WATTS, 250 VOLTS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Price Each
15931	4201	1/8-inch cap	25	500	\$0.33
15932	4206	3/8-inch cap	25	250	.39
15933	4211	Pendent cap	25	500	.33
15946	4196	1/2-inch cap	25	250	.45

### KEY—660 WATTS, 250 VOLTS

15934	4202	1/8-inch cap	25	500	.36
15935	4207	3/8-inch cap	25	250	.42
15936	4212	Pendent cap	25	500	.36
15947	4197	1/2-inch cap	25	250	.48

### KEYLESS—660 WATTS, 250 VOLTS

15937	4203	1/8-inch cap	25	500	.30
15938	4208	3/8-inch cap	25	250	.36
15939	4213	Pendent cap	25	500	.30
15948	4198	1/2-inch cap	25	250	.42

### PULL—250 WATTS, 250 VOLTS

15940	4204	1/8-inch cap	25	250	.50
15941	4209	3/8-inch cap	25	100	.56
15942	4214	Pendent cap	25	250	.50
15949	4199	1/2-inch cap	25	50	.62

### PULL—660 WATTS, 250 VOLTS

15943	4205	1/8-inch cap	25	250	.60
15944	4210	3/8-inch cap	25	100	.66
15945	4215	Pendent cap	25	250	.60
15950	4200	1/2-inch cap	25	50	.72

Standard finish, brush brass, which will be supplied when the finish is not specified. All other finishes are special and will be charged extra.



## BRYANT SOCKETS

KEY AND PULL SOCKETS, 250 WATTS, 250 VOLTS  
KEYLESS AND Q. T. SOCKETS, 600 WATTS, 250 VOLTS  
SCHEDULE 30



Fig. 2488



Fig. 50747



Fig. 50748



Fig. 50749



Fig. 50750

## BRYANT SOCKETS WITH REMOVABLE COMPOSITION RING

With Large Covered Base for Concealed Work

Trade No.	Ref. No.	Description	Cap. In.	Key In.	Key In.	Key In.	Key In.
17450	50744	*Keyless	30	100	25	80	30

See 50744 a for dimensions. See note for rear connection.

With Base for Concealed Work

17451	50745	*Key	30	250	85	40	
17452	50746	*Keyless, white white base	30	300	75	30	
17453	50747	*Keyless, slotted white base	30	250	75	30	
17454	50748	*Keyless, solid brown base	30	300	75	30	
17455	50749	*Keyless, slotted brown base	30	250	75	30	

Edges for supporting screws are spaced 1 1/2 inches on centers.

With Small Covered Base for Concealed Work

17456	50751	*Key	30	250	80	40	
17457	50752	*Keyless	30	250	80	40	
17458	50753	*Keyless	30	300	75	30	
17459	50754	*Keyless	30	250	75	30	
17460	50755	*Keyless	30	250	75	30	

Edges for supporting screws are spaced 2 inches on centers.

With 3/4-inch Cap

17461	50756	*Key	35	500	120	10	
17462	50757	*Keyless	35	500	107	10	
17463	50758	*Pull	35	250	65	30	

With 1/2-inch Cap

17464	50759	*Key	35	250	65	30	
17465	50760	*Keyless	35	250	60	30	
17466	50761	*Pull	35	100	30	30	

SOCKETS WITH TWO-POINT SHEELS  
NATIONAL ELECTRICAL CODE STANDARD

With 3/4-inch Cap

671201	7401	Key, single-point	35	500	120	10	
671202	7402	Keyless	35	500	107	10	
671203	7403	Pull	35	250	65	30	

With 1/2-inch Cap

671204	7404	Key, single-point	35	250	65	30	
671205	7405	Keyless	35	250	60	30	
671206	7406	Pull	35	100	30	30	

With Pendant Cap

123401	7407	Key, single-point	35	500	115	10	
123402	7408	Keyless	35	500	102	10	
123403	7409	Pull	35	250	60	30	

With Strain Relief Cap

123404	7410	Key, single-point	35	500	115	10	
123405	7411	Keyless	35	500	112	10	
123406	7412	Pull	35	250	65	30	

\*These porcelain rings will be supplied when specified, instead of black composition rings, without extra charge. (These sockets have porcelain rings specified.)



Fig. 7401



## BRYANT SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

### DUBL-DUTY SOCKETS SCHEDULE B4

The dubl-duty socket enables the user to get two Edison screw base outlets where formerly there was only one. It has the following advantages: bottom outlet is controlled by pull chain; side outlet is always on; side outlet is above the shade.

When bottom outlet is used for a lamp, the lamp maintains its original position.

Sockets are packed singly in attractive display cartons. In each standard package of twenty sockets there are included free, two empty individual display cartons, a cradle for supporting a socket, and a large display carton to hold the two empty cartons and the cradle.



No. AV-17

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
195301	AV-17	Dubl-duty socket	1	20	12	\$1.35

The standard finish is brush brass, which will be shipped when the finish is not specified.



No. 46750

### TWIN SOCKETS SCHEDULE B2

#### Keyless

065427	46750	Keyless, 1/8-inch cap.	25	50	12	65
065428	46751	Keyless, 3/8-inch cap.	25	50	12	70

#### Pull

17814	4051	*Pull, 1/8-inch cap.	10	50	25	1.00
17815	4052	*Pull, 3/8-inch cap.	10	50	25	1.06

Operating both ends simultaneously.

065430	4005	Pull, 1/8-inch cap.	10	50	25	1.00
065431	4006	Pull, 3/8-inch cap.	10	50	25	1.06

Operating by successive pulls as follows: First, end No. 1; second, both ends; third, end No. 2; fourth, both off.

17816	4053	Pull, 1/8-inch cap.	10	50	25	1.00
17817	4054	Pull, 3/8-inch cap.	10	50	25	1.06

One socket on all the time.



No. 4029

### TWIN EXTENSION SOCKETS SCHEDULE B4

#### Keyless

17812	4061	With Edison plug	10	50	30	1.00
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#### Pull

071220	4029	*With Edison plug	5	50	30	1.35
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Operating both ends simultaneously.

078197	4039	With Edison plug	5	50	30	1.35
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Operating by successive pulls as follows: First, end No. 1; second, both ends; third, end No. 2; fourth, both off.

17813	4040	With Edison plug	5	50	30	1.35
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One socket on all the time.

\*Not National Electrical Code Standard.



No. 304

### MOUNTING RINGS SCHEDULE H2

These rings permit the secure mounting of the canopy tap base when the construction of the wall or ceiling is such that the base cannot be directly fastened by means of wood screws.

Nos. 304 and 305 are attached directly to the outlet in the usual manner. No. 615 is for use in connection with fixtures that are supported from crowfeet. The ring is inserted between the crowfoot and the surface, the screws that support the crowfoot passing through slots in the mounting ring into the wall or ceiling.



No. 305



No. 615

195302	304	For 3 1/4 inch boxes	10	20	4	.15
195303	305	For 4 inch boxes	10	20	5	.15
195304	615	For crowfeet	10	20	4	.15



## BRYANT SOCKETS

### NATIONAL ELECTRICAL CODE STANDARD

Key Sockets, 250 Watts, 250 Volts—Keyless Sockets, 660 Watts, 250 Volts  
SCHEDULE B2



No. 4068



No. 66237

### PULL SOCKETS WITH BOTTOM CHAIN GUIDE

These sockets are especially adapted for lighting fixtures and side wall brackets.

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
17874	4068	Pull, $\frac{1}{8}$ -inch nozzle...	10	50	20	\$0.75
123441	4237	Pull, $\frac{3}{8}$ -inch nozzle...	10	50	20	.80
123428	4116	Pull, $\frac{1}{2}$ -inch three-step nozzle...	10	50	25	.80

### ELECTROLIER SOCKETS

065425	66237	Keyless, $\frac{1}{8}$ -inch cap...	50	250	55	.40
123429	50766	Keyless, $\frac{3}{8}$ -inch cap...	10	100	20	.46



No. 4043



No. 4004

### ANGLE SOCKETS

These sockets are quite generally used for showcase and trough reflector lighting.

17871	4043	Keyless, $\frac{1}{8}$ -inch cap...	25	100	25	.25
17872	4044	Keyless, $\frac{3}{8}$ -inch cap...	25	100	28	.41

### SOCKETS FOR CANDLE FIXTURES

These sockets can be used in tubing, measuring not less than  $1\frac{3}{8}$  inches inside diameter.

065426	4004	Keyless, $\frac{1}{8}$ -inch hickey	25	500	38	.18
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No. 35024

### PLUG-IN PULL SOCKETS

Inserting this socket in a key or keyless socket provides the convenience of control of a pull socket.

123432	35024	Plug-in pull socket...	10	100	24	.70
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### ALUMINUM SHELL SOCKETS

These sockets, having aluminum shells, are suitable for outdoor work. The shells are lined with porcelain and the sockets are therefore suitable for show window work and conform to the specifications of the National Board of Fire Underwriters as to the conditions under which insulating joints may be omitted.

123430	4106	Keyless, $\frac{3}{8}$ -inch cap...	10	50	25	.50
123431	4107	Keyless, $\frac{1}{2}$ -inch cap...	10	50	25	.50



No. 4106



No. 4137

### WITH BRASS SHADE-HOLDERS PERMANENTLY ATTACHED

#### With $\frac{1}{8}$ -inch Cap

95121	4137	$2\frac{1}{4}$ -in., with screws...	10	50	35	.60
95122	4138	$2\frac{1}{4}$ -in., with spring grip	10	50	35	.62
95123	4139	$3\frac{1}{4}$ -inch, with screws	10	50	40	.68
95124	4140	$3\frac{1}{4}$ -inch, with spring grip	10	50	40	.70

#### With $\frac{3}{8}$ -inch Cap

95125	4141	$2\frac{1}{4}$ -inch, with screws	10	50	35	.60
95126	4142	$2\frac{1}{4}$ -inch, with spring grip	10	50	35	.62
95127	4143	$3\frac{1}{4}$ -inch, with screws	10	50	40	.68
95128	4144	$3\frac{1}{4}$ -inch, with spring grip	10	50	40	.70

The shade-holders on these sockets are made of brass, nickel-plated to match the aluminum shell of the socket and are of the solid (not ventilated) type.



# BRYANT RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

## CEILING RECEPTACLES SCHEDULE B2

These receptacles have flat backs and can be used for ordinary ceiling work as well as for attachment to outlet boxes.

For 3 1/4-inch Outlet Boxes—660 Watts, 250 Volts

Trade No.	Mfr. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Std. Pkg. Each
17875	4102	Keyless, with binding screws	1	100	70	\$0.45
17876	4103	Keyless, with wires	1	100	75	.50
105154	4221	Keyless, lock type with binding screws	1	100	75	.72

For 3 1/4 and 4-inch Outlet Boxes—660 Watts, 250 Volts

17877	4100	Keyless, with binding screws	1	100	105	.60
17878	4101	Keyless, with wires	1	100	110	.65
105152	4222	Keyless, lock type with binding screws	1	100	110	.87

For 3 1/4 and 4-inch Outlet Boxes—250 Watts, 250 Volts

105147	4104	Pull, with binding screws	1	50	75	1.30
105148	4105	Pull, with wires	1	50	80	1.35
105153	4223	Pull, lock type, with binding screws	1	50	80	1.57

Nos. 4103, 4101 and 4105 are fitted with 6 inches of No. 14 stranded rubber covered wire. Receptacles with longer wires furnished on special order. Extra charge 9 cents per foot (4 1/2 cents each conductor).

## PANCAKE RECEPTACLES SCHEDULE B2

660 Watts, 250 Volts

These receptacles are primarily designed for installation in so-called "pancake" boxes; that is boxes 1/2 inch or 3/4 inch deep in which the only opportunity for attaching the receptacle consists of a pair of holes in the bottom of the box 1/4 inch in diameter spaced 1 1/2 inches on centers. Each receptacle is fitted with two expansion bolts designed to be inserted into the above-mentioned holes. In boxes which are not provided with these holes, the receptacles may be attached by means of the bridges listed below. Bridges must be ordered separately.

071214	4030	Receptacle, with binding screws, no cover	10	100	40	.30
17873	4055	Receptacle, with wires, no cover	10	100	49	.35
071215	4031	Brass cover for 3 1/4-in. box	10	100	28	.25
071216	4032	Brass cover for 4-in. box	10	100	39	.40

No. 4055 is fitted with 6 inches of No. 14 stranded rubber-covered wire. Receptacles with longer wires furnished on special order. Extra charge, 9 cents per foot (4 1/2 cents each conductor).

The covers are edged with fibre to provide insulation between the cover and the adjacent surface as required by the National Electrical Code.

## BRIDGES FOR PANCAKE RECEPTACLES SCHEDULE H2

105149	†519	For 3 1/4 and 4-inch round boxes	50pr.	50pr.	4	*.05
105150	†537	For 4-inch square boxes with open covers	50	50	10	.05
105151	†538	With 3/8-inch female thread for fixture stud or iron pipe	50	50	14	.05

The above bridges may also be used with BN and BP New Wrinkle Bases listed on other pages.

\*Per pair.

†100 bridges, assorted, is also a standard package.



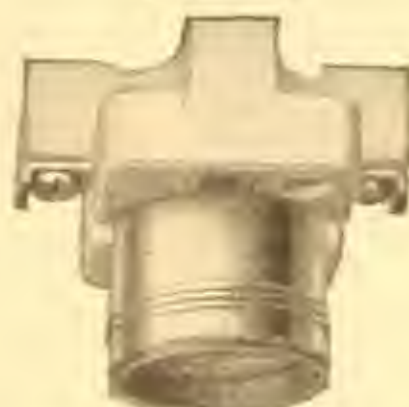
No. 4100



No. 4104



No. 4222



No. 4030



No. 4055



No. 4032



No. 519



No. 537



No. 538



## BRYANT FIXTURE SPECIALTIES

NATIONAL ELECTRICAL CODE STANDARD

### CANDLE PULL SOCKETS

Candelabra,  $\frac{1}{2}$  Ampere, 125 Volts; Medium, 250 Watts, 250 Volts

Designed to be mounted with the chain passing between the supporting stem and the candle tube and through the ornamental cup, which forms the base of the candle. It requires a candle tube having a minimum inside diameter of  $\frac{3}{8}$  inch, and No. 4120 a minimum of  $1\frac{1}{8}$  inches.



No. 4120

Trade No.	Mfr. No.	Description	Sched-ule	Car-ton	Std. Pkg.	Wt. Lbs.	Price Each
19850	540	Candelabra base	B2	25	50	5	\$0 75
19852	4120	Medium base, short female bushing	B2	10	50	10	.75
089271	4230	Medium base, long female hickey	B2	10	50	12	.75

The standard length of chain on No. 540 is 4 inches; on 4120, 8 inches.

### CANDLE TURN SOCKETS

19853	560	Candelabra base, female bushing	B2	20	20	6	1 50
19854	4121	Medium base, female bushing	B2	10	20	7	1 50



No. 493

### CANDELABRA CANDLE SWITCHES

$\frac{1}{2}$  Ampere, 125 Volts

19845	493	Key candle switch	H2	25	50	6	.33
19836	420	Pull candle switch	H2	10	50	6	.60
19839	455	Turn candle switch	H2	10	50	6	.75

No. 493 can be furnished with metal keys and to take special metal keys.

No. 420 has 4 inches of chain as the standard length. Can also be furnished with extension chain guides.

### KEY ARM SWITCHES

$\frac{1}{2}$  Ampere, 125 Volts

19844	2424	Key arm switch	H2	10	110018		1.00
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The casing of this switch is threaded to receive standard  $\frac{1}{8}$ -inch pipe at each end. Keys are not supplied with switches, as these are usually furnished by the fixture manufacturer in a design to harmonize with the fixture. The stem is threaded 6x32; length of thread,  $\frac{1}{4}$  inch.



No. 2424

### UNO FIXTURE RINGS

The purpose of this ring is to attach ornamental pieces to sockets. It has the same thread as Uno Shade Holders and can therefore be attached to any socket having the Uno bead. The ring measures 2 inches in diameter and is pierced with two diametrically opposite holes spaced  $1\frac{1}{4}$  inches on centers.

19851	549	Uno Fixture Ring	H2	50	200	4	.06 $\frac{1}{4}$
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The standard finish is brush or old brass which will be shipped when the finish is not specified.



No. 549



# BRYANT SOCKETS, RECEPTACLES AND PLUGS

BAYONET BASE—EDISWAN—250 VOLTS

## SOCKETS WITH SHADE HOLDER RING

### SCHEDULE B2

#### New Wrinkle Key Socket Bodies

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
175209	60	Porcelain disc type	25	500	115	\$0.43
175210	62	Plunger type	25	500	120	.43

#### New Wrinkle Keyless Socket Bodies

175211	56	Plunger type	25	500	110	.38
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#### New Wrinkle Pull Socket Bodies

175212	58	Plunger type	25	250	70	.83
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All of the above bodies will fit any of the New Wrinkle caps and bases.

#### Additional New Wrinkle Caps

175213	CA	1/8-in. French thread (11m/m. 7 1/2 thread per c/m)	25	500	32	.15
175214	CC	1/2-in. British thread (.515 in. 27 threads per inch)	25	250	20	.21
175215	CD	5/8-in. British thread (.630 in. 27 threads per inch)	25	250	20	.24

#### Wrinklet Key Socket Bodies

175216	64	Plunger type	25	500	95	.41
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#### Wrinklet Keyless Socket Bodies

175217	66	Plunger type	25	500	90	.36
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These bodies will fit any of the wrinklet caps.

#### Additional Wrinklet Caps

175218	DA	1/8-in. French thread (11m/m. 7 1/2 thread per c/m)	25	500	28	.15
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To obtain the price of a complete socket, add together the prices of body and cap, or base.

Standard finish on all sockets above is brush brass, which will be shipped when no finish is specified. Polished brass when specified, furnished without extra charge.

The standard length of key for all key sockets is 1 inch. The standard length of chain for pull sockets is 8 inches.

#### Keyless Sockets Complete with Caps

175219	567	With 1/8-in. French thread cap (11m/m. 7 1/2 thread per c/m)	25	500	65	.30
175220	580	With 1/2-in. British thread cap (.515 in. 27 threads per inch)	25	250	35	.36
175221	581	With 5/8-in. British thread cap (.630 in. 27 thread per inch)	25	250	35	.39

The regular finish of the above sockets is plain dipped, which will be furnished when no finish is specified. All other finishes, including brush brass and polished brass, are special.

Sockets similar to the above can be supplied with caps of any thread, other than listed, on orders of sufficient size, at a slight advance in price, quoted on application.

## RECEPTACLES WITH SHADE-HOLDER RING

### SCHEDULE B2

175222	596	Moulded composition, for open wiring. Holes for supporting screws are spaced 2 in. on centers.	10	100	45	.50
175223	568	Porcelain with covered connections for open wiring.	5	250	165	.40

#### ATTACHMENT PLUGS

### SCHEDULE H2

175224	570	Moulded composition.	25	100	10	.20
175225	597	Moulded composition with cord grip	10	100	30	.70
175226	569	With wooden handle	10	100	9	.12

#### SHADE-HOLDERS

### SCHEDULE D2

175227	578	2 1/4-in. for all bayonet base sockets and receptacles	50	500	34	.10
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Standard finish of No. 578 is brush brass which will be shipped when finish is not specified.



Nos. GC-60 and CC-62



No. CA-56



No. CA-58



No. DA-64



No. 567



No. 596



No. 570



No. 597



No. 569



No. 578



## BRYANT SOCKETS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

CANDELABRA AND MINIATURE

75 Watts, 125 Volts



No. 434



No. 321



No. 386



No. 328



No. 347

## SCHEDULE B2

## Key Sockets—New Wrinkle Style Shell Fastening

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt. Lbs.	Price Each
17766	433	Miniature, $\frac{1}{8}$ -inch cap	25	100	12	\$0.39
17767	434	Candelabra, $\frac{1}{8}$ -inch cap	25	100	12	.39



No. 323

## Keyless Sockets—Threaded Shell Fastening

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065472	320	Miniature, $\frac{1}{8}$ -in. screw cap	50	200	14	.32
065473	321	Candelabra, $\frac{1}{8}$ -in. screw cap	50	200	15	.32
92481	470	Miniature, $\frac{1}{8}$ -in. 2-point cap	50	200	14	.32
92482	471	Candelabra, $\frac{1}{8}$ -in. 2-point cap	50	200	15	.32



No. 367

## Pull Sockets—New Wrinkle Style Shell Fastening

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065474	385	Miniature, $\frac{1}{8}$ -inch cap	10	50	6	.84
065475	386	Candelabra, $\frac{1}{8}$ -inch cap	10	50	6	.84



No. 9445

## Sockets for Candle Fixtures

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065476	327	Miniature, male thread	50	200	9	.21
065477	328	Candelabra, male thread	50	200	10	.21

The supporting stud of above sockets is threaded  $\frac{5}{16}$ -inch, 27 threads per inch. Outside diameter of porcelain shell is  $\frac{11}{16}$ -inch.

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065478	346	Miniature, female thread	50	200	12	.21
065479	347	Candelabra, female thread	50	200	13	.21

The nipple of above sockets is  $\frac{1}{8}$ -inch for pipe, .045-inch outside diam., 27 threads per inch. Outside diameter of porcelain shell is  $\frac{11}{16}$ -inch.



No. 325

## Weatherproof Pendant Sockets

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065480	322	Miniature	25	200	9	.16
065481	323	Candelabra	25	200	9	.16

Made in green-glazed porcelain. Each socket fitted with 6 inches of No. 18 B. & S. stranded rubber covered wire. Sockets with longer wires furnished on special order. Extra charge, \$0.09 list, per foot ( $4\frac{1}{2}$  cents each conductor.)

## Cleat Receptacles

Trade No.	Mfrs. No.	Style	Sup. Centered, In.	Screws, In.	Dimens, In.	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065484	366	Miniature	1 $\frac{1}{16}$	1 $\frac{7}{16}$ *	1 $\frac{7}{16}$ *	25	200	28	\$0.12
065485	367	Candelabra	1 $\frac{1}{16}$	1 $\frac{7}{16}$ *	1 $\frac{7}{16}$ *	25	200	30	.12
065486	9445	Miniature	1 $\frac{1}{16}$	1 $\frac{7}{16}$ *	1 $\frac{7}{16}$ *	25	500	30	.09
065487	9446	Candelabra	1 $\frac{1}{16}$	1 $\frac{7}{16}$ *	1 $\frac{7}{16}$ *	25	500	36	.09
065488	324	Miniature, oblong base	1 $\frac{1}{32}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	25	200	24	.10
065489	325	Candelabra, oblong base	1 $\frac{1}{32}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	25	200	26	.10
92485	†612	Candelabra, oblong base	1 $\frac{1}{32}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	10	100	8	.25
92486	†617	Candelabra, oblong base and marine screw shell	1 $\frac{1}{32}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	10	100	9	.35



No. 388



No. 390

## SCHEDULE B3

## Receptacles for Metal Signs

Trade No.	Mfrs. No.	Style	Sup. Centered, In.	Screws, In.	Dimens, In.	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065491	387	Miniature	1 $\frac{1}{16}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	10	250	28	.18
065492	388	Candelabra	1 $\frac{1}{16}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	10	250	30	.18

## Receptacles for Metal Signs, with Removable Rings

Trade No.	Mfrs. No.	Style	Sup. Centered, In.	Screws, In.	Dimens, In.	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065493	389	Miniature	1 $\frac{1}{16}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	25	250	28	.20
065494	390	Candelabra	1 $\frac{1}{16}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	25	250	30	.20

## Receptacles for Wooden Signs

Trade No.	Mfrs. No.	Style	Sup. Centered, In.	Screws, In.	Dimens, In.	Carton	Std. Pkg.	Wt. Lbs.	Price Each
065496	25705	Candelabra	1 $\frac{1}{16}$	1 $\frac{7}{16}$	1 $\frac{7}{16}$	10	100	18	.24

\*Outside diameter of base. †Hole required for receptacle.

‡Schedule M2.



No. 25705



# SOCKET FITTINGS

## SOCKET HANDLES



No. 1240

Trade No.	Mfrs. No.	Size of Hole Inches	Size of Nipple Inches	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
094390	1240	$\frac{9}{32}$	$\frac{1}{8}$	For No. 16 approved lamp cord.....	25	100	15	\$0.12
094391	1388	$\frac{11}{32}$	$\frac{3}{8}$	For No. 16 approved portable cord.....	25	100	12	.14
094392	2751	$\frac{11}{32}$	$\frac{3}{8}$	For No. 16 approved lamp cord.....				.12

A strong socket handle, heavy threaded brass nipple for socket securely imbedded in end.

Designed to meet the demand for a rigid socket handle.



No. 2751

## SOCKET REDUCERS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
075695	421	Mogul to medium.....	10	100	22	\$0.25
065483	392	Medium to candelabra..	25	100	6	.10
065482	391	Candelabra to miniature	100	100	1	.06



No. 392



No. 9357

## SOCKET ADAPTERS

094401	9357	Socket adapter.....	100	500	20	.06
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Inserting this device in a Thompson-Houston socket adapts it for use with Edison base lamp.



No. 1274



No. 1273

## SOCKET RINGS

094393	1274	Composition, double flange	100	100	2	.04
094394	1273	Composition, single flange.	100	100	2	.04
094395	1435	Porcelain, single flange...	100	100	4	.05



No. 1435



No. 9399

## SOFT RUBBER RINGS

094396	9399	For use with weather-proof sockets.....		100		.05
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## BUSHINGS



No. 50787



No. 9165

Trade No.	Mfrs. No.	Description	Size of Hole Inches	Size of Cap Inches	Std. Pkg.	Price per 1000
094397	50787	Composition	$\frac{13}{32}$	$\frac{3}{8}$	500	\$10.00
094398	9165	Composition	$\frac{9}{32}$	$\frac{1}{8}$	1000	7.50












## BRYANT PORCELAIN LINE

## NATIONAL ELECTRICAL CODE STANDARD

All of the Porcelain Bodies Listed on the Two Following Pages Will Fit All of These  
Porcelain Caps and Bases

## SCHEDULE B

<b>No. PT</b> <b>Pendent Socket Cap</b>  Trade No. 100876 Price Each \$0.10 Carton 25 Std. Pkg. 250	<b>No. PA</b> <b>1/8-inch Brass Socket Cap</b>  Trade No. 100870 Price Each \$0.20 Carton 25 Std. Pkg. 100	<b>No. PB</b> <b>1/4-inch Brass Socket Cap</b>  Trade No. 100871 Price Each \$0.30 Carton 25 Std. Pkg. 100	<b>No. PC</b> <b>3/8-inch Brass Socket Cap</b>  Trade No. 100872 Price Each \$0.24 Carton 25 Std. Pkg. 100
<b>No. PE</b> <b>3/8-inch Aluminum Socket Cap</b>  Trade No. 195315 Price Each \$0.40 Carton 10 Std. Pkg. 100	<b>No. PD*</b> <b>1/2-inch Aluminum Socket Cap</b>  Trade No. 100873 Price Each \$0.42 Carton 25 Std. Pkg. 100	<b>No. PP</b> <b>3/8-inch Brass Angle Socket Cap</b>  Trade No. 100874 Price Each \$0.50 Carton 25 Std. Pkg. 100	<b>No. PF</b> <b>3/8-inch Aluminum Angle Cap</b>  Trade No. 195316 Price Each \$0.65 Carton 10 Std. Pkg. 100
<b>No. RW*</b> <b>1/2-inch Aluminum Angle Socket Cap</b>  Trade No. 100875 Price Each \$0.75 Carton 25 Std. Pkg. 100	<b>No. PW</b> <b>Cleat Socket Base</b>  Trade No. 100890 Price Each \$0.14 Carton 10 Std. Pkg. 100 Sup. Screws Centered, In. 1 15/16	<b>No. PZ†</b> <b>Large Concealed Socket Base</b>  Trade No. 100891 Price Each \$0.12 Carton 10 Std. Pkg. 100 Outside Diam. In. 2 3/4 Sup. Screws Centered, In. 1 1/2 and 2 5/16	<b>No. RB</b> <b>Wood Molding Socket Base</b>  Trade No. 100892 Price Each \$0.15 Carton 10 Std. Pkg. 100 Sup. Screws Centered, In. 2
<b>No. RL</b> <b>3 1/4-inch Box Socket Base</b>  Trade No. 100893 Outside Diam., In. 3 5/8 Sup. Screws Centered, In. 2 3/4 Carton 10 Std. Pkg. 100 Price Each \$0.30		<b>No. RM</b> <b>4-inch Box Socket Base</b>  Trade No. 100894 Outside Diam., In. 4 1/8 Sup. Screws Centered, In. 3 1/2 Carton 5 Std. Pkg. 100 Price Each \$0.40	

The sale of porcelain interchangeable devices as individual parts eliminates the labor of taking complete articles apart to interchange them. This increases the efficiency of the line, at the same time reducing the stock investment. Standard finish of brass caps is brush or old brass, which will be shipped when no finish is specified. Polished brass, when specified, will be furnished without extra charge.





\*This cap can be furnished also in brass on special orders at a reduction in price of \$0.15 list.  
 †This base is suitable for attachment to No. 500 Adaptiboxes.






## BRYANT PORCELAIN LINE

### NATIONAL ELECTRICAL CODE STANDARD

All the Porcelain Caps Listed on the Preceding Page will Fit Any of these Porcelain Bodies

<b>No. 70</b>  Key Socket Body SCHEDULE B2 250 Watts, 250 Volts			<b>No. 71</b>  Push Socket Body SCHEDULE B2 660 Watts, 250 Volts			<b>No. 75</b>  Pull Socket Body SCHEDULE B2 250 Watts, 250 Volts			<b>No. 76</b>  Pull Socket Body SCHEDULE B2 660 Watts, 250 Volts		
											
Trade No. 100867			Trade No. 195323			Trade No. 100869			Trade No. 195324		
Price Each \$0.26			Price Each \$0.29			Price Each \$0.75			Price Each \$0.81		
Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.
10	250	80	10	100	36	10	100	45	10	100	45

<b>No. 73</b>  Keyless Socket Body SCHEDULE B2 660 Watts, 250 Volts			<b>No. 79</b>  Spartan Receptacle Body SCHEDULE H2 10 Amps., 250 Volts			<b>No. 78</b>  *Spartan Current Tap SCHEDULE H2 660 Watts, 250 Volts		
								
Trade No. 100868			Trade No. 123446			Trade No. 123463		
Price Each \$0.23			Price Each \$0.20			Price Each \$0.20		
Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.
10	250	53	10	50	8	10	50	10

\*Can be inserted between the body and the cap or base of any porcelain socket combination and will take any of the Spartan Caps listed on another page.



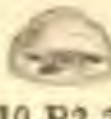
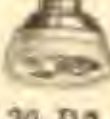



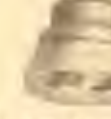


































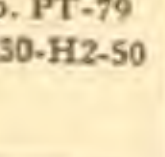
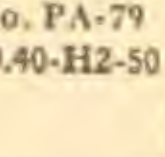
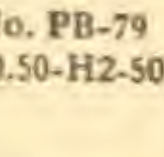
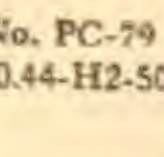
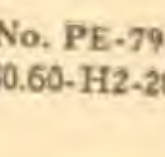
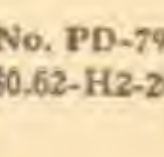
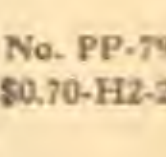








## BRYANT INTERCHANGEABLE PORCELAIN LINE

## NATIONAL ELECTRICAL CODE STANDARD

Bryant porcelain sockets have the same advantages of interchangeability of bases and caps with bodies which are provided by the New Wrinkle brass shell socket line. In addition, they are particularly adapted for installation in cellars, laundries, bathrooms, etc., as they afford adequate insulation from stray currents in damp places.

Staked binding screws and pointed holding screws allow ease of wiring and security of fastening between parts.

Pull sockets are furnished with detachable chain guides so that both chains and guides can be removed for re-finishing when desired.

	No. PT Pendant Cap	No. PA 1/4-inch Brass Cap	No. PB 1/2-inch Brass Cap	No. PC 1/2-inch Brass Cap	No. PE 1/2-inch Aluminum Cap	No. PD 1/2-inch Aluminum Cap	No. PP 1/2-inch Brass Angle Cap
							
	\$0.10-B2-250 Carton 25	\$0.20-B2-100 Carton 25	\$0.30-B2-100 Carton 25	\$0.24-B2-100 Carton 25	\$0.40-B2-100 Carton 25	\$0.42-B2-100 Carton 25	\$0.50-B2-100 Carton 25
No. 70 Key Socket Body	No. PT-70 Old No. 4393	No. PA-70 Old No. 5079	No. PB-70 Old No. 4008	No. PC-70 Old No. 3490	No. PE-70	No. PD-70 Old No. 4063	No. PP-70
							
\$0.26-B2-250 Carton 10	\$0.36-B2-250	\$0.46-B2-100	\$0.56-B2-100	\$0.50-B2-100	\$0.66-B2-100	\$0.68-B2-100	\$0.76-B2-100
No. 71 Push Socket Body	No. PT-71	No. PA-71	No. PB-71	No. PC-71	No. PE-71	No. PD-71	No. PP-71
							
\$0.29-B2-100 Carton 10	\$0.39-B2-100	\$0.49-B2-100	\$0.59-B2-100	\$0.53-B2-100	\$0.69-B2-100	\$0.71-B2-100	\$0.79-B2-100
No. 75 Pull Socket Body	No. PT-75 Old No. 4015	No. PA-75 Old No. 4016	No. PB-75 Old No. 4000	No. PC-75 Old No. 4007	No. PE-75	No. PD-75 Old No. 4002	No. PP-75
							
\$0.75-B2-100 Carton 10	\$0.85-B2-100	\$0.95-B2-100	\$1.05-B2-50	\$0.99-B2-100	\$1.15-B2-50	\$1.17-B2-50	\$1.25-B2-50
No. 73 Keyless Socket Body	No. PT-73 Old No. 4093	No. PA-73 Old No. 5080	No. PB-73 Old No. 4029	No. PC-73 Old No. 3494	No. PE-73	No. PD-73 Old No. 4080	No. PP-73
							
\$0.23-B2-250 Carton 10	\$0.33-B2-250	\$0.43-B2-100	\$0.53-B2-100	\$0.47-B2-100	\$0.63-B2-100	\$0.65-B2-100	\$0.73-B2-100
No. 79 Spartan Replaceable Body	No. PT-79	No. PA-79	No. PB-79	No. PC-79	No. PE-79	No. PD-79	No. PP-79
							
\$0.20-H2-50 Carton 10	\$0.30-H2-50	\$0.40-H2-50	\$0.50-H2-50	\$0.44-H2-50	\$0.60-H2-20	\$0.62-H2-20	\$0.70-H2-20
No. 76 Pull Socket Body	No. PT-76	No. PA-76	No. PB-76	No. PC-76	No. PE-76	No. PD-76	No. PP-76
							
\$0.81-B2-100 Carton 10	\$0.91-B2-100	\$1.01-B2-100	\$1.11-B2-50	\$1.05-B2-100	\$1.21-B2-50	\$1.23-B2-50	\$1.31-B2-50

Standard length of chain on Nos. 75 and 76, 8 inches. For longer chains, see another page. Standard finish of chain is brush brass. For special finishes add to list 12 cents.

The standard finish of brass caps is brush brass. For special finishes see another page.



## BRYANT INTERCHANGEABLE PORCELAIN LINE

### NATIONAL ELECTRICAL CODE STANDARD

Bryant porcelain sockets have the same advantages of interchangeability of bases and caps with bodies which are provided by the New Wrinkle brass shell socket line. In addition, they are particularly adapted for installation in cellars, laundries, bathrooms, etc., as they afford adequate insulation from stray currents in damp places.

Staked binding screws and pointed holding screws allow ease of wiring and security of fastening between parts.

Pull sockets are furnished with detachable chain guides so that both chains and guides can be removed for re-finishing when desired.

	No. PF Type Adjustable Angle Cap	No. RW Type Adjustable Angle Cap	No. PW Clear Base	No. PZ Concealed Base	No. RB Wood Mounting Base	No. RL 3" diam. Box Base	No. RM 4" diam. Box Base
	 \$0.65-B2-100 Carton 10	 \$0.75-B2-100 Carton 10	 \$0.14-B2-100 Carton 10	 \$0.12-B2-100 Carton 10	 \$0.15-B2-100 Carton 10	 \$0.30-B2-100 Carton 10	 \$0.40-B2-100 Carton 5
	No. PF-70 \$0.91-B2-100	No. RW-70 \$1.01-B2-100	No. PW-70 \$0.40-B2-100	No. PZ-70 \$0.38-B2-100	No. RB-70 \$0.41-B2-100	No. RL-70 \$0.56-B2-100	No. RM-70 \$0.66-B2-100
	No. PF-71 \$0.94-B2-100	No. RW-71 \$1.04-B2-100	No. PW-71 \$0.43-B2-100	No. PZ-71 \$0.41-B2-100	No. RB-71 \$0.44-B2-100	No. RL-71 \$0.59-B2-100	No. RM-71 \$0.69-B2-100
	No. PF-75 \$1.40-B2-50	No. RW-75 \$1.50-B2-50	No. PW-75 \$0.89-B2-50	No. PZ-75 \$0.87-B2-50	No. RB-75 \$0.90-B2-50	No. RL-75 \$1.05-B2-50	No. RM-75 \$1.15-B2-50
	No. PF-73 \$0.88-B2-100	No. RW-73 \$0.98-B2-100	No. PW-73 \$0.37-B2-100	No. PZ-73 \$0.35-B2-100	No. RB-73 \$0.38-B2-100	No. RL-73 \$0.53-B2-100	No. RM-73 \$0.63-B2-100
	No. PF-79 \$0.85-H2-20	No. RW-79 \$0.95-H2-20	No. PW-79 \$0.34-H2-20	No. PZ-79 \$0.32-H2-20	No. RB-79 \$0.35-H2-20	No. RL-79 \$0.50-H2-20	No. RM-79 \$0.60-H2-20
	No. PF-76 \$1.46-B2-50	No. RW-76 \$1.56-B2-50	No. PW-76 \$0.95-B2-50	No. PZ-76 \$0.93-B2-50	No. RB-76 \$0.96-B2-50	No. RL-76 \$1.11-B2-50	No. RM-76 \$1.21-B2-50

Standard length of chain on Nos. 75 and 76, 8 inches. For longer chains, see another page. Standard finish of chain or brush brass. For special finishes add to list 12 cents.

The standard finish of brass caps is brush brass. For special finishes see another page.



## BRYANT SOCKETS, RECEPTACLES AND ROSETTES



No. SS



No. SW



No. SU-712



No. SV-714



No. 572



No. 574

K-W LINE  
SOCKET BODIES  
Schedule B2

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
200205	710	Key, 250 watts, 125 volts.	10	100	45	\$0.62
200206	711	Keyless, 660 watts, 125 volts	10	50	22	.59

RECEPTACLE BODIES  
Schedule B2

200207	712	Plain porcelain, 660 watts, 125 volts	10	50	25	.27
200208	713	For Uno shade holder, 660 watts, 125 volts	10	50	23	.37
200209	714	Angle, for Uno shade holder, 660 watts, 125 volts	10	50	25	.67
200210	715	New Wrinkle	10	50	15	.36

## Schedule H2

200211	716	Junior, with plug, 12 amps., 125 volts	10	30	15	.37
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## ROSETTE CAPS

## Schedule H2

200212	717	Pendent, 2 amps., 125 volts.	10	250	73	.13
200213	718	Bracket Style A, 2 amps., 125 volts	10	100	30	.23
200214	719	Bracket Style B, 2 amps., 125 volts	10	100	25	.23

## BASES

## Schedule H2

Trade No.	Mfrs. No.	Description	Size In.	Screw Spacing In.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
200215	SS	Cleat, stamped lugs.	2 7/8	1 5/8	10	100	112	\$0.13
200216	ST	Cleat, cast lugs.	2 7/8	1 5/8	10	100	112	.13
200217	SU	Concealed	2 7/8	1 5/8	10	100	97	.13
200218	SV	Wood molding	2 7/8 x 2 1/4	1 5/8	10	100	97	.13
200219	SW	Combination	2 7/8	1 5/8	10	100	100	.13

## BASES AND BODIES ASSEMBLED

## Schedule B2

Trade No.	Mfrs. Nos. of Combinations	Std. Pkg.	Price Each
200220	SS-710, ST-710, SU-710, SV-710, SW-710	100	\$0.75
200221	SS-711, ST-711, SU-711, SV-711, SW-711	50	.72
200222	SS-712, ST-712, SU-712, SV-712, SW-712	50	.40
200223	SS-713, ST-713, SU-713, SV-713, SW-713	50	.50
200224	SS-714, ST-714, SU-714, SV-714, SW-714	50	.80
200225	SS-715, ST-715, SU-715, SV-715, SW-715	50	.49

## Schedule H2

200226	SS-716, ST-716, SU-716, SV-716, SW-716	30	.50
200227	SS-717, ST-717, SU-717, SV-717, SW-717	250	.26
200228	SS-718, ST-718, SU-718, SV-718, SW-718	100	.36
200229	SS-719, ST-719, SU-719, SV-719, SW-719	100	.36

## ROSETTES FOR OUTLET BOXES

## Schedule H2

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
200230	572	Plain, for 3 1/4-inch box.	10	100	55	\$0.10
200231	574	With terminals, for 3 1/4-in. box	10	100	60	.22
200232	573	Plain, for 4-inch box.	5	100	100	.17
200233	575	With terminals, for 4-in. box.	5	100	105	.30



# BRYANT PORCELAIN CLEAT RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD—660 WATTS, 250 VOLTS  
SCHEDULE B2



No. 9402



No. 4013



No. 9403



No. 28795



No. 50715



No. 59275



No. 58301



No. 58300



No. 58949



No. 9171



No. 4229

Trade No.	Mfrs. No.	Description	Sup. Centered, In.	Screws Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
043144	*9402	Cleat.....	2 $\frac{3}{8}$	10	250	105	\$0.17
043145	*4013	Cleat.....	2 $\frac{3}{8}$	10	250	105	.22

No. 4013 is for weatherproof shade holders.

043146	9403	Cleat.....	2 $\frac{3}{8}$	10	250	92	.27
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No. 9403 has brass ring for Uno and other standard shade holders.

043147	*28795	Cleat.....	1 $\frac{7}{8}$	10	250	105	.18
043140	*50715	Pony cleat..	1 $\frac{5}{8}$	10	250	81	.12
043139	*59275	Cleat, 1-inch separation..	2	10	250	110	.25
043136	*58301	Cleat.....	1	5	250	165	.28
043137	*58300	Cleat.....	1	5	250	165	.33

No. 58300 is for weatherproof shade holders.

043138	58949	Cleat.....	1	5	250	162	.38
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No. 58949 has brass ring for Uno and other standard shade holders.

043148	*9171	†Cleat.....	†	10	500	135	.12
043149	*50757	†Cleat.....	†	10	250	70	.25

No. 50757 has copper fittings and screws.

195333	*4229	Cleat and concealed.....	...	10	250	95	.25
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Holes for supporting screws are slotted to provide 1 $\frac{3}{8}$  inches to 1 $\frac{5}{8}$  inches on centers.

\*New Wrinkle Emergency Shade Holders may be attached to these receptacles.

†Supported by one screw in the center.

‡Not National Electrical Code Standard.



## BRYANT RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD—660 WATTS, 250 VOLTS

## SCHEDULE B2



No. 4000



No. 4001



No. 4002



No. 50744



No. 9401



No. 4024



No. 4026



No. 4025



No. 42453



No. 58302



No. 58950

## CONCEALED RECEPTACLES

Trade No.	Mfrs. No.	Outside Diam. Base, In.	Sup. Centered Inches	Screws Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
065437	*4000	2 $\frac{5}{8}$	1 $\frac{5}{8}$	10	250	105	\$0.25
065438	*4001	2 $\frac{5}{8}$	1 $\frac{5}{8}$	10	250	105	.30
065439	4002	2 $\frac{5}{8}$	1 $\frac{5}{8}$	10	250	100	.35
065440	50744	2 $\frac{3}{8}$	1 $\frac{1}{4}$	10	100	50	.30
043151	*9401	2 $\frac{3}{4}$	1 $\frac{3}{8}$	10	100	60	.40

## WOOD MOLDING RECEPTACLES

071217	*4024	2 $\frac{3}{4}$	10	250	85	.30
	For Weatherproof Shade Holder					
071218	*4026	2 $\frac{3}{4}$	10	250	90	.35
	With Brass Ring for Standard Shade Holder					
071219	4025	2 $\frac{3}{4}$	10	250	75	.40
Nos. 4024, 4026 and 4025 may also be used on $\frac{1}{2}$ and $\frac{3}{4}$ -inch pipe taplets.						
	Without Shade Holder Groove					
065442	*42453	1 $\frac{5}{8}$	10	250	132	.25
	For Weatherproof Shade Holder					
065443	*58302	1 $\frac{5}{8}$	10	250	130	.30
	With Brass Ring for Standard Shade Holder					
065444	58950	1 $\frac{5}{8}$	10	250	123	.35

\*New Wrinkle Emergency Shade Holders listed on another page may be attached to these receptacles.

†Not National Electrical Code Standard.



## BRYANT PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

660 Watts, 250 Volts



No. 4063



No. 40488



No. 4014

### SIGN RECEPTACLES

#### SCHEDULE B3



No. 4057

Trade No.	Mfrs. No.	Description	Diam. of Hole Req. in. Carion	Std. Wt. Lbs. Pkg. Std Pkg.	Price Each
19907	4063	Sign receptacle	1 3/8	10 250 75	\$0.17
Holes for supporting screws are spaced 1 3/8 inches on centers.					
043129	40488	Pony sign receptacle	1 3/8	10 250 65	.18
Holes for supporting screws are spaced 1 3/8 inches on centers.					
071028	4014	Ruby sign receptacle with binding screws	1 3/8	10 250 70	.28
19908	4057	Ruby sign receptacle with stranded wires	1 3/8	10 250 85	.33

No. 4057 is fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire. Longer wires on special order. Extra charge, 9 cents list per foot.



No. 4072

19910	4072	Two-piece sign receptacle, 1-inch back.	1 1/2	10 250 90	.20
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The receptacle is prevented from turning by three fins which bite into the metal of the sign.



### OUTLET BOX RECEPTACLES

#### SCHEDULE B3



No. 59107

043199	59107	Receptacle (600 volts)	1 9/16	10 100 47	.30
19911	4074	Receptacle with loop terminals.	1 9/16	10 100 45	.25

No. 59107 is fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire. Longer wires on special order. Extra charge, 9 cents list per foot.

No. 4074 is the same as No. 59107, except that the wires are omitted. Terminal plates to which conductors may readily be soldered are provided.

Holes for supporting screws are spaced 2 1/8 inches on centers.

#### SCHEDULE B2

19912	*22287	Receptacle with marine screw shell		10 100 52	.35
19913	4149	Receptacle with regular screw shell		10 100 47	.25

Outside diameter of base is 2 5/8 inches.

Holes for supporting screws are spaced 2 to 2 5/8 inches on centers.

All of the above receptacles may be used with New Wrinkle Emergency Shade Holders listed on another page. No. 4072 may also be used with New Wrinkle Receptacle Shade Holders listed on another page.

\*Not National Electrical Code Standard.



No. 22287



## BRYANT PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE B3

No. 61988



No. 59108



No. 4099



No. 4035



No. 4003

## RECEPTACLES FOR OUTLET BOXES AND METAL SIGNS

660 Watts, 250 Volts—Schedule B3

## Receptacles with Screw Ring



No. 4133



No. 1700



No. 4037



No. 4056



No. 4038

Trade No.	Mfrs. No.	Description	Separation of Back Inches	Thick-ness of Back Inches	Car-ten	Std. Pkg.	Wt. lbs. Std. Pkg.	Price Each
043134	61988	With binding screws.....	1	1 1/4	10	250	80	\$0.20
043133	59108	With binding screws.....	5/8	3/8	10	250	60	.20
123474	4099	With binding screws, cov'd	1	1 1/4	10	250	100	.25
123475	4109	With binding screws, cov'd	5/8	3/8	10	250	80	.25
19905	4036	With loop terminals.....	1 1/8	1 1/8	10	250	80	.20
123476	4132	With loop terminals.....	3/8	3/8	10	250	60	.20
19904	4035	With 6-inch wires.....	1 1/8	1 1/8	10	250	95	.28
043135	4003	With 6-inch wires.....	3/8	3/8	10	250	84	.28
123482	....	Ring only.....	....	....	....	250	....	.06
Receptacles with Screw Ring for Shade Holder								
123477	4133	With binding screws.....	5/8	3/8	10	250	60	.25
123478	4134	With binding screws, cov'd	5/8	3/8	10	250	82	.30
123479	4136	With loop terminals.....	3/8	3/8	10	250	60	.25
123480	4135	With 6-inch wire.....	3/8	3/8	10	250	80	.33
123481	....	Ring only.....	....	....	25	100	....	.10

The hole required for all of the above receptacles is 1 1/2 inches diam.

Nos 4099, 4109 and 4134 are provided with a porcelain button which covers the live terminals and takes the place of the usual waxing. The button is readily put in place without the aid of tools. Nos. 4036, 4132 and 4136 are provided with loops to which wires may be hooked and soldered, after which the live metal parts must be covered with insulating wax. Nos. 4035, 4003 and 4135 are fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire. Longer wires will be supplied on special order. Extra charge, 9 cents list per foot (4 1/2 cents each conductor).

## RECEPTACLES FOR WOOD SIGNS

660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Diam. of Hole Req., In.	Car-ten	Std. Pkg.	Wt. lbs. Std. Pkg.	Price Each
043131	1700	†Pony sign receptacle.....	1 9/16	10	250	75	\$0.17
043130	50899	†Sign receptacle, 1-in. skirt...	1 9/16	10	100	45	.25
043128	50782	†Sign receptacle, 1 3/4-inch skirt	1 9/16	10	100	50	.25

Holes for supporting screws are spaced 1 7/8 inches on centers.

## RECEPTACLES FOR TEMPORARY LIGHTING

660 Watts, 250 Volts—Schedule B2

These receptacles are provided with pointed binding screws designed to pierce the insulation, making it unnecessary to strip the wires. Stranded wire is preferable for this use.

17746	4037	Porcelain.....	10	250	85	.24
17747	4056	Mica.....	10	250	80	.30
17748	4038	Porcelain cleat receptacle.....	10	250	95	.18

Holes for supporting screws are spaced 1 1/2 inches on centers.

New Wrinkle Emergency Shade Holders listed on another page may be attached to above receptacles for wood signs and temporary lighting.

\*In these receptacles a porcelain button covers the live terminals and takes the place of the usual method of waxing. This button is readily put in place without the use of tools.

†Not National Electrical Code Standard.



# BRYANT PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B2



No. 9514



No. 9397



No. 40507



No. 4064

## RECEPTACLES FOR OUTLET BOXES

660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Sup. Screws Centered, In.	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
043214	9514	Flush receptacle, two-piece	1 7/8	10	250	90	\$0.30
075696	4033	Flush receptacle, one-piece	1 3/8	10	250	90	20
043120	*9397	Outlet box receptacle	1 1/2	10	250	40	20
043121	*40507	Outlet box receptacle	1 1/4	10	250	45	17

## RECEPTACLES FOR 3 1/4-INCH OUTLET BOXES

660 Watts, 250 Volts

17765	4227	With groove for shade holder	2 3/4	5	100	85	40
043125	62357	Without shade holder grooves	2 3/4	5	100	82	35

660 Watts, 600 Volts

17759	4110	With black japanned cover	2 3/4	1	100	75	48
17760	4111	With sherardized cover	2 3/4	1	100	75	50
17761	4112	With brush brass cover	2 3/4	1	100	70	60

Each receptacle is fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire. Longer wires on special order. Extra charge, 9 cents list per foot.

## RECEPTACLES FOR 4-INCH OUTLET BOXES

660 Watts, 250 Volts

195346	4228	With shade holder groove	3 1/2	5	100	114	50
17756	4064	Without shade holder groove	3 1/2	5	100	110	45

660 Watts, 600 Volts

17762	4113	With black japanned cover	3 1/2	1	100	95	54
17763	4114	With sherardized cover	3 1/2	1	100	95	56
17764	4115	With brush brass cover	3 1/2	1	100	90	70

Each receptacle is fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire. Longer wires on special order. Extra charge, 9 cents list per foot.

## RECEPTACLES FOR ADAPTIBOXES

660 Watts, 250 Volts

17757	4076	Receptacle, with binding screws	2 5/8	10	250	150	30
17758	4108	Receptacle, with loop terminals	2 5/8	10	250	150	30

## MEDIUM BASE REFLECTOR SOCKETS

660 Watts, 250 Volts

This socket can be installed with ease in any type reflector regardless of whether the reflector and its holder are made in one piece or separate pieces; it is suitable for use with metal caps tapped to fit either 3/8-inch or 1/2-inch pipe.

195347	4235	Medium base reflector socket	3/8	10	100	60	35
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Socket is 2 1/4 inches in diameter by 1 5/8 inches deep.

New Wrinkle Emergency Shade Holders listed on another page may be attached to all the above receptacles.

\*Not National Electrical Code Standard.



No. 4227



No. 4110



No. 4113



No. 4076



No. 4235  
Front View



No. 4235  
Back View



## BRYANT SOCKETS FOR DECORATIVE LIGHTING

NATIONAL ELECTRICAL CODE STANDARD—660 WATTS, 250 VOLTS

## SCHEDULE B2



Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
17743	4034	Porcelain decorative socket, not wired . . . . .	10	250	70	\$0.20

These sockets will be furnished "ready-wired," that is, supplied with approved stranded single braid rubber covered wire, connections soldered, and then filled with insulating compound, making the receptacles absolutely weatherproof.

These sockets are put up in lengths of about 500 feet and will so be shipped, unless otherwise specified.

Additional lengths of wire can be supplied on either end of the streamers. Add 9 cents list per foot ( $4\frac{1}{2}$  cents each conductor) for No. 14 wire, and 10 cents list per foot (5 cents each conductor) for No. 12 wire.

Sockets Centered Inches	Wired with No. 14 Wire			Wired with No. 12 Wire		
	Trade No.	Mfrs. No.	Price per 100	Trade No.	Mfrs. No.	Price per 100
4	123489	4034A	\$26.00	123512	124034A	\$28.60
5	123490	4034B	26.75	123513	124034B	29.45
6	123491	4034C	27.50	123514	124034C	30.50
7	123492	4034D	28.25	123515	124034D	31.10
8	123493	4034E	29.00	123516	124034E	31.50
9	123494	4034F	29.75	123517	124034F	32.75
10	123495	4034G	30.50	123518	124034G	33.55
11	123496	4034H	31.25	123519	124034H	34.40
12	123497	4034J	32.00	123520	124034J	35.20
14	123498	4034K	33.50	123521	124034K	36.85
15	123499	4034M	34.25	123522	124034M	37.70
16	123500	4034N	35.00	123523	124034N	38.50
17	123501	4034P	35.75	123524	124034P	39.35
18	123502	4034Q	36.50	123525	124034Q	40.15
20	123503	4034R	38.00	123526	124034R	41.80
21	123504	4034S	38.75	123527	124034S	42.65
22	123505	4034T	39.50	123528	124034T	43.45
24	123506	4034U	41.00	123529	124034U	45.10
25	123507	4034V	41.75	123530	124034V	46.00
26	123508	4034W	42.50	123531	124034W	46.75
27	123509	4034X	43.25	123532	124034X	47.60
28	123510	4034Y	44.00	123533	124034Y	48.40
30	123511	4034Z	45.50	123534	124034Z	50.10

The price of sockets spaced more than 30 inches apart is obtained by adding 75 cents per 100 sockets per inch to the price of No. 4034Z for No. 14 wire, and 85 cents per 100 sockets per inch to the price of No. 124034Z for No. 12 wire.



# BRYANT SOCKETS FOR DECORATIVE LIGHTING

NATIONAL ELECTRICAL CODE STANDARD—660 WATTS, 250 VOLTS

## SCHEDULE B2



Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
17744	4041	Mica decorative socket, not wired	10	250	75	\$0.25

These sockets will be furnished "ready-wired," that is, supplied with approved stranded single braid rubber covered wire, connections soldered, and then filled with insulating compound, making the sockets absolutely weatherproof.

These sockets are put up in lengths of about 500 feet and will be so shipped, unless otherwise specified.

Additional lengths of wire can be supplied on either end of the streamers. Add 9 cents list per foot (4½ cents each conductor) for No. 14 wire, and 10 cents list per foot (5 cents each conductor) for No. 12 wire.

Sockets Centered Inches	Wired with No. 14 Wire			Wired with No. 12 Wire		
	Trade No.	Mfrs. No.	Price per 100	Trade No.	Mfrs. No.	Price per 100
4	123551	4041A	\$31.00	123574	124041A	\$33.60
5	123552	4041B	31.75	123575	124041B	34.45
6	123553	4041C	32.50	123576	124041C	35.50
7	123554	4041D	33.25	123577	124041D	36.10
8	123555	4041E	34.00	123578	124041E	36.50
9	123556	4041F	34.75	123579	124041F	37.75
10	123557	4041G	35.50	123580	124041G	38.55
11	123558	4041H	36.25	123581	124041H	39.40
12	123559	4041J	37.00	123582	124041J	40.20
14	123560	4041K	38.50	123583	124041K	41.85
15	123561	4041M	39.25	123584	124041M	42.70
16	123562	4041N	40.00	123585	124041N	43.50
17	123563	4041P	40.75	123586	124041P	44.35
18	123564	4041Q	41.50	123587	124041Q	45.15
20	123565	4041R	43.00	123588	124041R	46.80
21	123566	4041S	43.75	123589	124041S	47.65
22	123567	4041T	44.50	123590	124041T	48.45
24	123568	4041U	46.00	123591	124041U	50.10
25	123569	4041V	46.75	123592	124041V	51.00
26	123570	4041W	47.50	123593	124041W	51.75
27	123571	4041X	48.25	123594	124041X	52.60
28	123572	4041Y	49.00	123595	124041Y	53.40
30	123573	4041Z	50.50	123596	124041Z	55.10

The price of sockets spaced more than 30 inches apart is obtained by adding 75 cents per 100 sockets per inch to the price of No. 4041Z for No. 14 wire, and 85 cents per 100 sockets per inch to the price of No. 124041Z for No. 12 wire.



## BRYANT WEATHERPROOF SOCKETS

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE B2

No. 399



No. 9366



No. 50997



No. 60666 and 50788



No. 43310



No. 43311



No. 43314



No. 9448

## PORCELAIN SOCKETS

Trade No.	Mfrs. No.		Carton	Std. Pkg.	Wt., Lbs.	Price Each
050558	*399	Weatherproof socket.....	10	250	80	\$0.14 1/2
073106	*9366	Weatherproof socket for shade holder.....	10	250	85	.22

## BRAGDON SOCKETS

Extension edge carries the drip away from the lamp and socket. Method of wiring at the top removes the strain from the socket itself and places it on the porcelain. Extra hole in porcelain at top allows for independent suspension, if desired.

073107	*50997	Weatherproof socket.....	10	250	165	.50
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## COMPOSITION SOCKETS

073108	60666	Weatherproof socket.....	10	250	80	.24
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## HARD RUBBER SOCKETS

073110	50788	Weatherproof socket.....	10	250	75	1.00
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The above weatherproof sockets are fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire.

## MOLDED SOCKETS

073112	43310	Weatherproof socket.....	10	250	60	.18
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The above weatherproof sockets are fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire.

Sockets with longer wires furnished on special order. Extra charge, 9 cents list per foot.

## MOLDED BRACKET SOCKETS

Wires Inside of Pipe—660 Watts, 250 Volts

073115	43311	Weatherproof bracket socket, 1/8-inch.....	10	100	30	.60
073116	43312	Weatherproof bracket socket, 3/8-inch.....	10	100	30	.60

Wires Outside of Pipe—660 Watts, 600 Volts

073117	43313	Weatherproof bracket socket, 1/8-inch.....	10	100	30	.60
073118	43314	Weatherproof bracket socket, 3/8-inch.....	10	100	30	.60

## PORCELAIN BRACKET SOCKETS

660 Watts, 250 Volts

073113	*9448	Weatherproof socket, 1/8-inch...	10	100	40	.60
073114	*9496	Weatherproof socket, 3/8-inch...	10	100	45	.60

Cap is a brass casting, brush brass finish and fitted with steel set screw.

The above sockets are fitted with 6 inches of No. 18 B. & S. solid rubber-covered fixture wire. Sockets with longer wires furnished on special order. Extra charge, 9 cents list per foot.

\*New Wrinkle Emergency Shade Holders listed on another page may be attached to these sockets.



# BRYANT WEATHERPROOF RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE B2



No. 9407



No. 44912



No. 9408

## WEATHERPROOF RECEPTACLES

660 WATTS, 600 VOLTS

With Side Wires

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
043218	9407	Weatherproof receptacle...	10	100	78	\$0.40

Outside diameter of base is  $2\frac{11}{16}$  inches.

Holes for supporting screws are spaced  $2\frac{3}{16}$  inches on centers.

043217	44912	Pony weatherproof receptacle...	10	100	55	.35
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Outside diameter of base is  $1\frac{13}{16}$  inches.

Holes for supporting screws are spaced  $1\frac{23}{32}$  inches on centers.

With Bottom Wires

043216	9408	Weatherproof receptacle...	10	100	75	.40
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Outside diameter of base is  $2\frac{5}{8}$  inches.

Holes for supporting screws are spaced  $2\frac{1}{4}$  inches on centers.

043215	9411	Pony weatherproof receptacle...	10	100	58	.35
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195334	4216	With Marine brass shell...	10	100	60	.50
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195335	4217	Pony weatherproof receptacle with angle base...	10	100	60	.35
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Outside diameter of base is  $2\frac{3}{8}$  inches.

Holes for supporting screws are spaced  $2\frac{3}{8}$  inches on centers.

Angle, with Side Wires

043219	30000	Angle weatherproof receptacle...	10	100	90	.45
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No. 9411



No. 30000



No. 25706



No. 25707

## STREETHOOD SOCKETS

660 Watts, 250 Volts

043142	25706	With side lugs, $\frac{3}{8}$ -in. yoke...	10	100	65	.37
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195336	4233	With side lugs, $\frac{1}{2}$ -in. yoke...	10	100	65	.37
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Screw holes in yoke are spaced  $2\frac{3}{8}$  inches on center.

660 Watts, 600 Volts

043143	25707	With wire leads, $\frac{3}{8}$ -in. yoke...	10	100	75	.55
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195337	4234	With wire leads, $\frac{1}{2}$ -in. yoke...	10	100	75	.55
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All of the above, except No. 25706, are fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire. Longer wires on special order. Extra charge, 9 cents list per foot ( $4\frac{1}{2}$  cents each conductor).

New Wrinkle Emergency Shade Holders listed on another page may be attached to any of the above sockets or receptacles.



## BRYANT PORCELAIN SOCKETS

NATIONAL ELECTRICAL CODE STANDARD—1500 WATTS, 600 VOLTS

## SCHEDULE B2



Cap of No. 4077



No. SC Cap



No. SD Yoke

Socket Body  
of No. 4077INTERCHANGEABLE PORCELAIN SOCKETS FOR MOGUL  
BASE LAMPS

SOCKET BODIES WITHOUT CAPS OR YOKES

## Two-piece Keyless

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
79560	4077	Body only	5	50	60	\$0.70
105075	4123	Body with binding screws	5	50	50	.55
79567	4081	Body with 15-in. wires	5	50	58	.70
79568	4088	Body with loop terminals	5	50	50	.55
17732	4062	Body with side binding screws	5	50	15	.55

## Lock Keyless

105222	4224	Body with binding screws	5	50	50	.97
105223	4225	Body with 15-in. wires	5	50	58	1.12
105224	4226	Body with loop terminals	5	50	50	.97

## ALUMINUM CAPS

Trade No.	Mfrs. No.	Size Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
105225	SA	3/8	10	50	5	\$0.30
105226	SB	1/2	10	50	5	.30
105227	SC	3/4	10	50	5	.30

## CAST IRON YOKES

105228	SD	3/8	10	50	22	.15
105229	SE	1/2	10	50	19	.15
105230	SF	3/4	10	50	18	.15

## KEYLESS MOGUL PORCELAIN SOCKETS

Bodies with Aluminum Caps

Trade No.	Mfrs. No.	Size Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
79561	SA4077	3/8	5	50	65	\$1.00
79562	SB4077	1/2	5	50	65	1.00
79563	SC4077	3/4	5	50	65	1.00
100045	SA4123	3/8	5	50	55	.85
100046	SB4123	1/2	5	50	55	.85
100047	SC4123	3/4	5	50	55	.85
79569	SA4081	3/8	5	50	63	1.00
79570	SB4081	1/2	5	50	63	1.00
79571	SC4081	3/4	5	50	63	1.00
79572	SA4088	3/8	5	50	55	.85
79573	SB4088	1/2	5	50	55	.85
79574	SC4088	3/4	5	50	55	.85

Bodies with Cast Iron Yokes

79564	SD4077	3/8	5	50	82	0.85
79565	SE4077	1/2	5	50	78	.85
79566	SF4077	3/4	5	50	79	.85
100042	SD4123	3/8	5	50	72	.70
100043	SE4123	1/2	5	50	68	.70
100044	SF4123	3/4	5	50	69	.70
79575	SD4081	3/8	5	50	80	.85
79576	SE4081	1/2	5	50	76	.85
79577	SF4081	3/4	5	50	77	.85
79578	SD4088	3/8	5	50	72	.70
79579	SE4088	1/2	5	50	68	.70
79580	SF4088	3/4	5	50	69	.70
105231	SD4062	3/8	5	50	37	.70
105232	SE4062	1/2	5	50	33	.70
200086	SF4062	3/4	5	50	34	.70

In all sockets for Mogul Base Lamps a special compound, which will not soften under heat, is used for covering assembling screws.



No. SD4081



## BRYANT SOCKETS AND RECEPTACLES

### SOCKETS AND RECEPTACLES FOR MOGUL BASE LAMPS

NATIONAL ELECTRICAL CODE STANDARD—1500 WATTS, 600 VOLTS

#### SCHEDULE B2



No. 4027



No. 4073

#### BRASS SHELL SOCKETS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
065435	4021	Keyless, $\frac{3}{8}$ -inch cap	10	50	40	\$1.50
065436	4022	Keyless, $\frac{1}{2}$ -inch cap	10	50	40	1.50
With $\frac{3}{4}$ -inch Shade Holder Attached						
076595	4027	Keyless, $\frac{3}{8}$ -inch cap	1	25	52	1.80
076596	4028	Keyless, $\frac{1}{2}$ -inch cap	1	25	55	1.80

#### PORCELAIN RECEPTACLES

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
02338	4073	Cleat base	10	50	55	\$0.75

Holes for supporting screws are spaced  $2\frac{7}{8}$  inches on centers.

Sockets can be equipped with an improved lamp grip, when so specified, at an additional price of 5 cents.

## THOMAS ROSETTE RECEPTACLES

#### SCHEDULE B2



No. 25094

Trade No.	Mfrs. No.	Style	Sup. Screws Centered, In.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
065466	25094	Concealed	$1\frac{1}{8}$ and $1\frac{13}{16}$	10	50	40	\$0.40
065467	25092	*Cleat	$1\frac{5}{8}$	10	50	48	.40
065468	25096	Two-wire molding	$1\frac{5}{8}$	10	50	50	.40
For Shade Holders							
065469	25093	Concealed	$1\frac{1}{8}$ and $1\frac{13}{16}$	10	50	44	.50
065470	25091	*Cleat	$1\frac{5}{8}$	10	50	45	.50
065471	25095	Two-wire molding	$1\frac{5}{8}$	10	50	50	.50

Thomas rosette receptacles for shade holders have brass shell body similar to illustration of No. 9436.

Caps are interchangeable, and will fit any Thomas 125-volt Rosette Base.

\*National Electrical Code Standard.

†New Wrinkle Emergency Shade Holders may be attached to these receptacles.



## BRYANT CANOPY SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE H2

## CANOPY SWITCHES

With Binding Screw Terminals

3 Amperes, 125 Volts—1 Ampere, 250 Volts



No. 452



No. 647

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
195071	451	With stem $\frac{3}{8}$ -inch long	10	100*	8	\$0.75
195072	642	With stem $\frac{5}{8}$ -inch long	10	100*	9	.80
195073	452	With stem $\frac{7}{8}$ -inch long	10	100*	10	.80
195074	643	With stem $\frac{3}{4}$ -inch long	10	100*	11	.84
195075	644	With stem 1-inch long	10	100*	12	.85

With Wire Leads

3 Amperes, 125 Volts—1 Ampere, 250 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
195076	491	With stem $\frac{3}{8}$ -inch long	10	100*	12	.75
195077	645	With stem $\frac{5}{8}$ -inch long	10	100*	13	.80
195078	492	With stem $\frac{7}{8}$ -inch long	10	100*	14	.80
195079	646	With stem $\frac{3}{4}$ -inch long	10	100*	15	.84
195080	647	With stem 1-inch long	10	100*	16	.85

Each switch is fitted with 6 inches of No. 18 B. & S. stranded rubber covered fixture wire. Switches with longer wires will be furnished on special order. Add to list price 9 cents per foot ( $4\frac{1}{2}$  cents each conductor). For switches with wire leads omitted, deduct from list price 2 cents.

## JUNIOR CANOPY SWITCHES

With Wire Leads

 $\frac{1}{2}$  Ampere, 125 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
195081	541	With stem $\frac{3}{8}$ -inch long	10	100*	11	\$0.75
195082	542	With stem $\frac{7}{8}$ -inch long	10	100*	12	.80

Each switch is fitted with 6 inches of No. 18 B. & S. stranded rubber covered fixture wire. Switches with longer wires will be furnished on special order. Add to list price, per foot 9 cents ( $4\frac{1}{2}$  cents each conductor). For switches with wire leads omitted deduct from list price 2 cents.

Junior switches cannot be furnished with binding screw terminals, nor with stems of other than the two lengths listed.

All switch stems are  $\frac{3}{8}$ -inch outside diameter, 27 threads per inch.

Each switch stem is fitted with two lock nuts,  $\frac{9}{16}$ -inch outside diameter; the outer one  $\frac{7}{16}$ -inch thick, the inner one  $\frac{5}{16}$ -inch thick.

On special order switches will be furnished with the outer lock nut  $\frac{7}{16}$ -inch thick without extra charge. To obtain this assembly add B after any of the above Mfrs. Nos. They can also be supplied with both lock nuts  $\frac{3}{4}$ -inch diameter, the outer one  $\frac{1}{4}$ -inch thick, the inner one  $\frac{3}{4}$ -inch thick, without extra charge. To obtain this assembly add C after any of the Mfrs. Nos.

Handle stems are threaded 6x32; length of thread  $\frac{3}{8}$ -inch.

Switches will be supplied with set screw which passes through the center of the handle into the end of the handle stem to prevent the handle from unscrewing, at an addition to the list price of 5 cents. To obtain this assembly add A after any of the above Mfrs. Nos.

\*Canopy switches of all Mfrs. Nos. may be assorted to make up standard package quantity, provided carton quantities are not broken.

No. 541  
AssembledNo. 541  
Exploded  
View

B Lock Nut

C Lock Nut



# BRYANT ROSETTES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2



Cleat Base



Fusible Cap



Fuseless Cap

## BRYANT JUNIOR TWO-PIECE ROSETTES

Fusible caps are rated for a capacity of 2 amperes, 125 volts.

Fuseless caps are rated for a capacity of 660 watts, 250 volts.

### With Cleat Base

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
043089	1501	With fusible cap	10	250	115	\$0.20
043093	297	With fuseless cap	10	250	115	16½¢

Holes for supporting screws are spaced 1½ inches on centers.

### With Concealed Base

043090	1502*	With fusible cap	10	250	140	.20
043094	298	With fuseless cap	10	250	140	16½¢

Outside diameter of base is 2¾ inches.

Holes for supporting screws are spaced 1½ inches on centers.

### With Wood Molding Base

043091	1503*	With fusible cap	10	250	120	.20
043095	299	With fuseless cap	10	250	120	16½¢

Holes for supporting screws are spaced 1½ inches on centers.

### With Base for 3¼-inch Outlet Boxes

043092	368*	With fusible cap	1	100	90	.32
043096	369	With fuseless cap	1	100	90	.30

Outside diameter of base is 3½ inches.

Holes for supporting screws are spaced 2¾ inches on centers.



Concealed Base



Molding Base



Outlet Box Base



No. 1999



No. 1499

## BRYANT JUNIOR ONE-PIECE ROSETTES

Fuseless, 660 Watts, 250 Volts

043098	1999	Cleat and concealed combined	10	500	135	.10
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Holes for supporting screws are spaced 1¼ inches on centers.

## K. P. FUSELESS ROSETTES

One-piece, 660 Watts, 250 Volts

043100	1499	Cleat	10	250	163	.24
043101	1710	Concealed	10	250	145	.24

Outside diameter of base is 3½ inches.

Holes for supporting screws are spaced 2½ inches on centers.

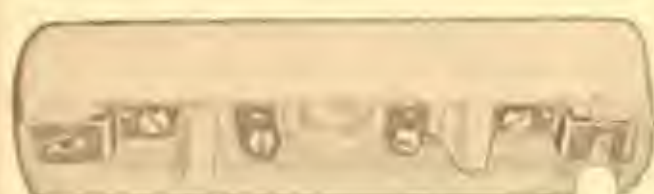
## BRYANT CLEAT ROSETTES

With Covered Connections

076644	965	Fusible, 2-amp., 125-v.	20	250	120	.26
112966	565	Fuseless, 660 watts, 250-v.	20	250	120	.24

Holes for supporting screws are spaced 1½ inches on centers.

\*Not National Electrical Code Standard.



Cleat Rosette



## BRYANT ROSETTES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2

Pendent Cap



Cleat Base



Concealed Base



Wood Molding Base

Cap with Connections  
for Enclosed FusesCap with Connections  
for Open Link Fuses

Cleat Base



Concealed Base

## THOMAS ROSETTES

FUSIBLE, 2 AMPERES 125 VOLTS

With Cleat Base

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
043077	3414	With pendent cap . . . . .	10	250	176	\$0.26

Holes for supporting screws are spaced  $1\frac{5}{8}$  inches on centers.

With Concealed Base

043078	3415	*With pendent cap . . . . .	10	250	170	.26
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Outside diameter of base is  $2\frac{7}{8}$  inches.Holes for supporting screws are spaced  $1\frac{5}{8}$  inches on centers.

With Wood Molding Base

043079	3416	*With pendent cap . . . . .	10	250	160	.26
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Holes for supporting screws are spaced  $1\frac{5}{8}$  inches on centers.

FUSIBLE, 3 AMPERES, 250 VOLTS

With Cleat Base

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
043083	3423	With enclosed fuse cap . . . . .	10	250	240	\$0.30
043080	3420	*With link fuse cap . . . . .	10	250	230	.30

Holes for supporting screws are spaced  $2\frac{1}{8}$  inches on centers.

With Concealed Base

043084	3424	With enclosed fuse cap . . . . .	10	250	238	.30
043081	3421	*With link fuse cap . . . . .	10	250	228	.30

Outside diameter of base is  $3\frac{1}{8}$  inches.Holes for supporting screws are spaced  $2\frac{1}{8}$  inches on centers.

\*Not National Electrical Code Standard.



## BRYANT ROSETTES AND RECEPTACLES

### NATIONAL ELECTRICAL CODE STANDARD

#### BASES AND BODIES ONLY



No. JS Base



No. JT Base



No. JU Base



No. 720 Body



No. 721 Body



No. 722 Body

#### No. JS

Trade No.	Mfrs. No.	Description	Car- ton	Sche- dule	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
195358	JS	Small box base	10	H2	100	35	\$0.15

Outside diameter of base is  $2\frac{7}{8}$  inches. Holes for supporting screws are spaced  $2\frac{5}{8}$  inches on centers.

Fits Type 500 Adaptiboxes, Types GN, HM and W (Forms 5 and 10) Octagonal unilets and size 10 round opening pipe taplets.

#### No. JT

195359	JT	$3\frac{1}{4}$ -inch box base	10	H2	100	60	.20
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Outside diameter of base is  $3\frac{5}{8}$  inches. Holes for supporting screws are spaced  $2\frac{3}{4}$  inches on centers.

#### No. JU

195360	JU	4-inch box base	10	H2	100	105	.30
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Outside diameter of base is  $4\frac{5}{8}$  inches. Holes for supporting screws are spaced  $3\frac{1}{2}$  inches on centers.

#### No. 720

195361	720	Lamp receptacle body	10	B2	100	60	.36
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#### No. 721

195362	721	Spartan receptacle body	10	H2	50	25	.30
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#### No. 722

195363	722	Rosette connecting block body	10	H2	100	45	.20
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#### LAMP RECEPTACLES AND BASES

##### SCHEDULE B2

Trade No.	Mfrs. No. New	No. Old	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
195364	JS-720		With small box base	10	100	90	\$0.45
195365	JT-720	4122	With $3\frac{1}{4}$ -inch box base	10	100	110	.50
195366	JU-720	4148	With 4-inch box base	1	100	155	.60

#### SPARTAN RECEPTACLES AND BASES

##### SCHEDULE H2

Trade No.	Mfrs. No. New	No. Old	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
195367	JS-721	135	With small box base	10	50	43	\$0.45
195368	JT-721	126	With $3\frac{1}{4}$ -inch box base	10	50	50	.50
195369	JU-721	129	With 4-inch box base	5	50	70	.60

#### CONNECTING BLOCKS, ROSETTES AND BASES

##### SCHEDULE H2

The center hole is closed with white wax so that the piece is suitable for use as an interconnecting block and box cover. When wanted for rosette, the wax is knocked out, leaving a smooth hole through which the lamp cord is passed to the binding screw terminals on the inside.

Trade No.	Mfrs. No. New	No. Old	Description	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
195370	JS-722		With small box base	10	100	75	\$0.35
195371	JT-722	566	With $3\frac{1}{4}$ -inch box base	10	100	100	.40
195372	JU-722	611	With 4-inch box base	1	100	140	.50



## BRYANT ATTACHMENT PLUGS

NATIONAL ELECTRICAL CODE STANDARD



No. 700



No. 500



Nos. 1948 and 925



No. 1009

ATTACHMENT PLUGS  
Spartan Separable

Trade No.	Mfrs. No.	Description	Schedule	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
123678	700	For $\frac{1}{8}$ -in. cord hole	R3	25	250	40	\$0.25
194865	701	For $\frac{3}{8}$ -in. cord hole	R3	25	250	40	.25

## One-piece Porcelain

These plugs are made with a short screw thread so that they are inserted in the socket with only one turn, thereby avoiding the twisting of the cord.



No. 345

17867	500	Fuseless, with binding screws	H7	25	250	35	14
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## Brass Cap

047772	1948	Fuseless	H2	10	250	50	.22
047773	*925	Fusible	H2	10	250	50	.22

## Enameled Wood Handle

047771	1009	Fuseless	H2	10	250	30	.12
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## Molded Weatherproof

660 Watts, 660 Volts

047770	*345	Fuseless	H2	10	250	60	.44
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Each No. 345 plug is fitted with 6 inches of No. 14 B. & S. stranded rubber covered wire. Longer wires on special order. Extra charge, 9 cents list per foot ( $4\frac{1}{2}$  cents each conductor).

Nos. 3286  
and 1286

## Porcelain Cap

047774	3286	Fuseless	H2	10	250	80	.22
047775	*1286	Fusible	H2	10	250	80	.22

\*Nos. 925 and 1286 plugs are not National Electrical Code Standard.

## PLUGS AND RECEPTACLES

## Watertight and Non-watertight



No. 585

Trade No.	Mfrs. No.	Description	Schedule	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
194866	583	Two-wire receptacle, 12 amps., 250 volts.	M4	10	50	27	\$0.90
194867	584	Three-wire receptacle, 12 amps., 440 volts.	M5	10	20	11	1.00
194868	585	Two-wire plug, 12 amps., 250 volts	M4	10	50	50	2.20
	586	Three-wire plug, 12 amps., 440 volts.	M5	10	20	18	2.30
194869	587	Two-wire non-water-tight plug, 12 amps., 250 volts	M4	10	50	35	1.60
194870	588	Three-wire non-water-tight plug, 12 amps., 440 volts.	M5	10	20	11	1.70

Nos. 585 and 586 are provided with cast brass octagonal collar caps, the purpose of which is to secure the plug in the receptacle and make it watertight. This cap is threaded on the inside; it is 2 inches inside diameter, 16 threads per inch. Diameter of 583,  $2\frac{3}{8}$  inches; height,  $1\frac{1}{4}$  inches, with Nos. 585 and 586 plugs inserted  $4\frac{1}{4}$  inches over all; with Nos. 587 and 588,  $4\frac{1}{4}$  inches. Diameter of collar,  $1\frac{5}{8}$  inches; height of collar,  $\frac{1}{2}$  inch.















Nos. 584, 586 and 588 are approved by the Underwriters for 12 amperes at all voltages up to the maximum of 440 volts. This approval, however, does not permit pulling the plug under load at voltages above 250. To secure Underwriters' approval at voltages above 250, it is necessary to provide separate means for breaking the circuit.



No. 583



**BRYANT PLUGS AND RECEPTACLES**  
NATIONAL ELECTRICAL CODE STANDARD  
SPARTAN ATTACHMENT PLUGS AND RECEPTACLES

<p><b>No. KA</b> Standard Composition Cap 1/2-In. Cord Hole</p>  <p>Price, Each \$0.15 Std. Pkg. 250 Wt., 25 lbs. Carton 10-Schedule R2</p>	<p><b>No. KJ</b> Standard Composition Cap 1/4-In. Cord Hole</p>  <p>Price, Each \$0.15 Std. Pkg. 250 Wt., 25 lbs. Carton 10-Schedule R2</p>	<p><b>No. KD</b> Standard Elongated Composition Cap 1/2-In. Cord Hole</p>  <p>Price, Each \$0.25 Std. Pkg. 100 Wt., 17 lbs. Carton 10-Schedule R2</p>	<p><b>No. KP</b> Standard Fusible Composition Cap 1/2-In. Cord Hole</p>  <p>Price, Each \$0.50 Std. Pkg. 20 Wt., 9 lbs. Carton 10-Schedule R2</p>
<p><b>No. KM</b> Standard Composi- tion Cap With 1/2-in. Knostrain Bushing</p>  <p>Price, Each \$0.25 Std. Pkg. 50 Wt., 10 lbs. Carton 10-Schedule R2 Price, with Bushing omitted, \$0.20</p>	<p><b>No. KN</b> Standard Brass Cov- ered Composition Cap With 1/2-In. Knostrain Bushing</p>  <p>Price, Each \$0.45 Std. Pkg. 50, Wt., 10 lbs. Carton 10-Schedule R2 Price, with Bushing omitted, \$0.40</p>	<p><b>No. KB</b> Standard Brass Cov- ered Composition Cap 1/2-In. Cord Hole</p>  <p>Price, Each \$0.25 Std. Pkg. 250 Wt., 45 lbs. Carton 10-Schedule R2</p>	<p><b>No. KC</b> Standard Brass Cov- ered Composition Cap With Finger Grip 1/2-In. Cord Hole</p>  <p>Price, Each \$0.35 Std. Pkg. 50 Wt., 10 lbs. Carton 10-Schedule R2</p>
<p><b>No. KG</b> Standard Composi- tion Motor Attach- ment Cap 1/2-In. Cord Hole</p>  <p>Price, Each \$0.20 Std. Pkg. 50 Wt., 9 lbs. Carton 10-Schedule R2 Base is 1 1/2 in. Diam. 1/2 in. thick. Screw Springs 1-in.</p>	<p><b>No. KR</b> Standard Composi- tion Midget Motor Attachment Cap</p>  <p>Price, Each \$0.15 Std. Pkg. 50 Wt., 9 lbs. Carton 10-Schedule R2 Outside Diam. 1 1/2 in. For Use in Connection with No. 130 Cord Connector Body.</p>	<p><b>No. KF</b> Standard Spartan to Edison Porcelain Adapter</p>  <p>Price, Each \$0.20 Std. Pkg. 100 Wt., 18 lbs. Carton 10-Schedule R2 Diam. 1 1/2 in. Length 1 1/2 in.</p>	<p><b>No. KL</b> Standard Spartan to Edison Composition Adapter</p>  <p>Price, Each \$0.30 Std. Pkg. 100 Wt., 17 lbs. Carton 10-Schedule R2 Diam. 1 1/2 in. Length, 1 1/2 in.</p>
<p><b>No. KE</b> Standard Composi- tion Pilot Cap with Brass Guard, 125 Volts</p>  <p>Price, Each \$0.95 Std. Pkg. 30 Wt., 9 lbs. Carton 10-Schedule R2 Diam. 1 1/2 in. Length, 3 1/2 in.</p>	<p><b>No. KK</b> Standard Composi- tion Cap with Cord Grip and 1/2-In. Hole</p>  <p>Price Each \$0.35 Std. Pkg. 100 Wt., 34 lbs. Carton 10-Schedule R2 Price without Cord Grip \$0.30</p>	<p><b>No. KH</b> Standard Composi- tion Duplex Adapter</p>  <p>Price, Each \$0.70 Std. Pkg. 10 Wt., 5 lbs. Carton 10-Schedule R2</p>	<p><b>No. KS</b> Standard Composi- tion Triplex Adapter With 3 Outlets</p>  <p>Price, Each \$1.05 Std. Pkg. 10 Wt., 7 lbs. Carton 5-Schedule R2</p>

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To specify, change  
first letter to M.



## BRYANT PLUGS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

## SPARTAN ATTACHMENT PLUGS AND RECEPTACLES

<p>No. 100 Edison Composition Screw Body 660 W. 250 V.</p>  <p>Price Each, \$0.15 Std. Pkg. 250 Wt., 22 Lbs. Carton 10-Schedule R2 Does not have tandem slots</p>	<p>No. 118 Edison Composition Screw Adapter Body 660 W. 250 V.</p>  <p>Price Each, \$0.15 Std. Pkg. 100 Wt., 7 Lbs. Carton 10-Schedule R2 Does not have tandem slots</p>	<p>No. 103 Composition Cord Connector Body 10 Amps. 250 V.</p>  <p>Price Each, \$0.30 Std. Pkg. 100 Wt., 18 Lbs. Carton 10-Schedule R2 Diam. 1 1/8 In. Length, 1 1/2 In.</p>	<p>No. 130 Midget Composition Cord Connector Body 10 Amps. 250 V.</p>  <p>Price Each, \$0.30 Std. Pkg. 50 Wt., 6 Lbs. Carton 10-Schedule R2 For use in connection with KR and MR caps.</p>
<p>No. 101 Multiple Porcelain Current Tap Body 660 W. 250 V.</p>  <p>Price Each, \$0.50 Std. Pkg. 100 Wt., 70 Lbs. Carton 10-Schedule R2</p>	<p>No. 131 Multiple Composition Current Tap Body 660 W. 250 V.</p>  <p>Price Each, \$0.60 Std. Pkg. 100 Wt., 70 Lbs. Carton 10-Schedule R2</p>	<p>No. 102 Series Porcelain Current Tap Body 660 W. 250 V.</p>  <p>Price Each, \$0.50 Std. Pkg. 50 Wt., 37 Lbs. Carton 10-Schedule R2</p>	<p>No. PT-79 Porcelain Cord Connector Body 10 Amps. 250 V.</p>  <p>Price Each, \$0.30 Std. Pkg. 50 Wt., 16 Lbs. Carton 10-Schedule H2 Interchangeable on all porcelain socket caps and bases. Diam. 1 1/8 In.</p>
<p>No. AA-29 New Wrinkle Fixture Body 10 Amps. 250 V.</p>  <p>Price Each, \$0.45 Std. Pkg. 20 Wt., 5 Lbs. Carton 10-Schedule H2 Diam. 1 1/8 In.</p>	<p>No. AA-31 Q. T. Key Socket Body with Spartan Plug Outlet; each Outlet, 660 W. 250 V.</p>  <p>Price, Each \$0.58 Std. Pkg. 50 Wt., 33 Lbs. Carton 10-Schedule B2 Does not have tandem slots.</p>	<p>No. AA-32 Keyless Socket Body with Spartan Plug Outlet; each Outlet 660 W. 250 V.</p>  <p>Price, Each \$0.55 Std. Pkg. 50 Wt., 30 Lbs. Carton 10-Schedule B2 Does not have tandem slots.</p>	<p>No. AA-33 Pull Socket Body with Spartan Plug Outlet; each Outlet 660 W. 250 V.</p>  <p>Price, Each \$0.85 Std. Pkg. 50 Wt., 33 Lbs. Carton 10-Schedule B2 Does not have tandem slots.</p>

The standard finish of brass shell devices is brush brass.



# BRYANT PLUGS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

## SPARTAN ATTACHMENT PLUGS AND RECEPTACLES

No. 616

D. D. to Spartan  
Composition  
Adapter  
10 Amps. 250 V.



Price Each, \$0.65

Std. Pkg. 30, Wt., 7  
Lbs.  
Carton 10—Schedule  
R2

Inserting this adapt-  
er in any D. D. recep-  
tacle makes outlet  
available for use with  
all Spartan caps.

No. 128

Vacuum Cleaner  
Handle  
Connector Body  
Black Porcelain  
3 Amps. 250 V.  
6 Amps. 125 V.



Price Each, \$0.15

Std. Pkg. 100, Wt., 12  
Lbs.  
Carton 25—Schedule  
R2

Flange 1 1/2 in. diam.  
1/4 in. thick. Body 7/8-  
in. Diam. 1 3/4 in. long.  
Does not have tandem  
slots.

No. 138

Vacuum Cleaner  
Handle  
Connector Body  
Composition  
3 Amps., 250 V.  
6 Amps., 125 V.



Price Each, \$0.20

Std. Pkg. 100, Wt., 12  
Lbs.  
Carton 25—Schedule  
R2

Flange 1 1/2 in. diam.  
Body 3/4-in. diam. 1 3/4  
in. long. Does not have  
tandem slots.

No. 104

Porcelain  
Cleat Base  
Body  
10 Amps., 250 V.



Price Each, \$0.30

Std. Pkg. 100, Wt., 40  
Lbs.  
Carton 10—Schedule  
R2

Main diam. 2 1/2 in.  
Diam. over lugs 2 3/4  
in.; Height 1 1/2 in.  
Screw spacings 1 1/2 in.  
and 2 3/4 in.

No. 105

Porcelain Concealed  
Base Body  
10 Amps., 250 V.



Price Each, \$0.30

Std. Pkg. 100, Wt., 40 Lbs.  
Carton 10—Schedule R2  
Diam. of base 2 1/2 in.  
Height 1 1/2 in.  
Screw spacings 1 1/2 in.

No. 108

Porcelain Wood  
Molding Body  
10 Amps., 250 V.



For 1/2 in. and 3/4 in.  
Oblong Pipe Taplets  
Types 1, 3, 4, T and 43SS.  
44SS and 45SS V-V Fittings.

Price Each, \$0.35

Std. Pkg. 50, Wt., 25 Lbs.  
Carton 10—Schedule R2  
Base Measures 2 1/2 in. by 1 1/2 in.  
Height 1 1/2 in.  
Screw spacings 2 1/2 in.

Nos. 109 AND 110

Porcelain Body for  
1/2 and 3/4-inch Obround  
Condulets  
10 Amps., 250 Volts



Price, No. 109, Each, \$0.40

Price, No. 110, Each, \$0.45

Std. Pkg. 100, Wt., 50 Lbs.  
Carton 10—Schedule R2.

Nos. 132 AND 133

Porcelain Body for  
1/2 and 3/4-inch  
Rectangular Unlets  
10 Amps., 250 V.



Price, No. 132, Each, \$0.40

Price, No. 133, Each, \$0.45

Std. Pkg. 100, Wt., 50 Lbs.  
Carton 10—Schedule R2.

No. 111

Porcelain Body for  
Type No. 500 Adaptiboxes  
10 Amps., 250 V.



Price Each, \$0.35

Std. Pkg. 50, Wt., 23 Lbs.  
Carton 10—Schedule R2.  
Base 2 1/2 in. diam.  
Height 3/4 in.  
Screw spacings 2 1/2 in.

No. 134

Porcelain Body  
for Type 4400  
Adaptiboxes  
10 Amps., 250 V.



Price Each, \$0.40

Std. Pkg. 100, Wt., 50 Lbs.  
Carton 10—Schedule R2.



## BRYANT PLUGS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

## SPARTAN ATTACHMENT PLUGS AND RECEPTACLES

<p><b>No. 135</b> Porcelain Terminal Block Receptacle Body 10 Amps., 250 Volts</p>  <p>For Type 500 Adaptiboxes; Types GN, HM and W (Forms 5 and 10) Octagonal Unilets and Size 10 Round Opening Pipe Taplets.</p> <p><b>Price Each, \$0.45</b> Std. Pkg., 50. Wt., 45 Lbs. Carton 10, Schedule H2. Diam. base 2 3/4 in. Height 1 3/4 in. Screw Spacings 2 1/4 in.</p>	<p><b>No. 126</b> Porcelain Terminal Block Receptacle Body For 3 1/4-inch Boxes 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.50</b> Std. Pkg., 50. Wt., 50 Lbs. Carton 10, Schedule H2. Diam. base is 3 1/2 in. Height 1 3/4 in. Screw spacings, 2 3/4 in.</p>	<p><b>No. 129</b> Porcelain Terminal Block Receptacle Body For 4-inch Boxes 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.60</b> Std. Pkg., 50. Wt., 130 Lbs. Carton 5, Schedule H2. Diam. base is 4 1/4 in. Height 1 3/4 in. Screw Spacings, 3 1/2 in.</p>	
<p>The tops of these receptacles are identical; also interchangeable with lamp receptacle and rosette tops.</p>			
<p><b>No. 114</b> Porcelain Outlet Box Cover Body 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.30</b> Std. Pkg., 50. Wt., 22 Lbs. Carton 10, Schedule R2. Requires holes 1 1/8 in. diam. Diam. 1 1/4 in. projects 3/8 in. above and 1 1/8 in. below cover; distance from back of cover to bottom of wire grooves 1 in.</p>	<p><b>No. 112</b> Porcelain Outlet Box Body Porcelain Base 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.30</b> Std. Pkg., 100. Wt., 35 Lbs. Carton 10, Schedule R2. Base diam. is 1 3/4 in. and top diam. 1 3/8 in. Height 1 1/2 in. Screw spacings 5/8 in.</p>	<p><b>No. 123</b> Porcelain Outlet Box Body Composition Base 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.32</b> Std. Pkg., 100. Wt., 36 Lbs. Carton 10, Schedule R2. Does not have tandem slots. Base diam. 1 3/4 in. Top diam. 1 3/8 in. Height 1 7/8 in. Screw Spacings, 1 3/8 in.</p>	
<p><b>No. 113</b> Composition Outlet Box Body For 1/2-inch Knockout 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.25</b> Std. Pkg., 50. Wt., 10 Lbs. Carton 10, Schedule R2. Does not have tandem slots. Will not take Polarity Caps.</p>	<p><b>No. 127</b> Composition Outlet Box Body For 3/4-inch Knockout 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.35</b> Std. Pkg., 50. Wt., 12 Lbs. Carton 10, Schedule R2. Does not have tandem slots.</p>	<p><b>No. 115</b> Receptacle Body With Round Plate 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.85</b> Std. Pkg., 50. Wt., 27 Lbs. Carton 1, Schedule R2. Plate 2 3/4 in. diam. Recept 1 1/8 in. diam. 1 1/2 in. deep. Screw Spacings, 1 7/8 in. Recept. less plate \$0.50.</p>	<p><b>No. 116</b> Receptacle Body With Round Plate for 3 1/4-inch Outlet Boxes 10 Amps., 250 Volts</p>  <p><b>Price Each, \$0.95</b> Std. Pkg., 50. Wt., 39 Lbs. Carton 1, Schedule R2. Plate 3 3/8 in. diam. Receptacle 1 1/8 in. diam. 1 1/8 in. deep. Screw Spacings, 2 3/4 in. Recept. less plate \$0.50.</p>






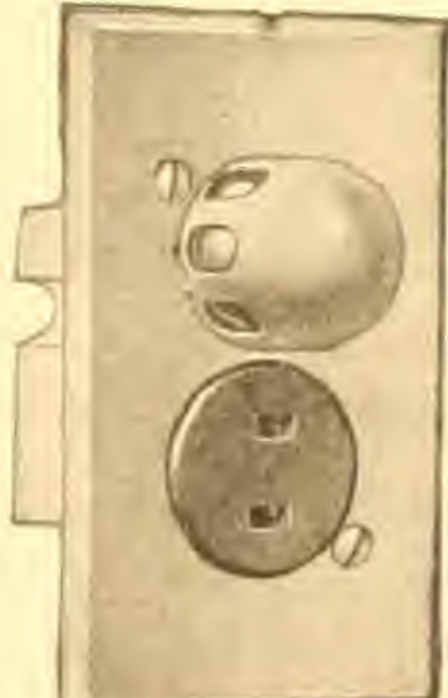

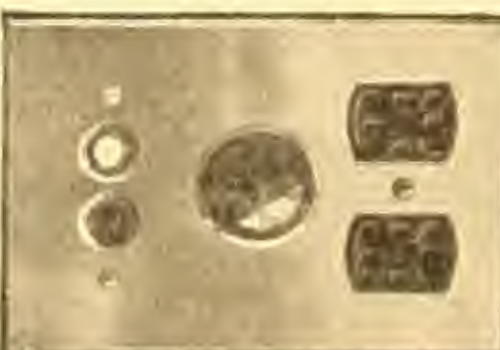
The tops of these receptacles are identical; also interchangeable with lamp receptacle and rosette tops.



## BRYANT PLUGS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

### SPARTAN ATTACHMENT PLUGS AND RECEPTACLES

<p align="center"><b>No. 120</b> Flush Receptacle Body 10 Amps. 250 V.</p>  <p align="center">For Plate without Door</p> <p align="center"><b>Price, Each \$0.50</b> Std. Pkg. 100 Wt., 52 Lbs. Carton 10-Schedule R2 Base 2 1/8 x 1 1/4 In. Depth 1 1/2 In. Screw spacings of out- side holes 3 1/2 in. and of inside holes 2 1/2 in.</p>	<p align="center"><b>No. 124</b> Flush Receptacle Body 10 Amps. 250 V.</p>  <p align="center">For Plate with Door</p> <p align="center"><b>Price, Each \$0.60</b> Std. Pkg. 50 Wt., 27 Lbs. Carton 10-Schedule R2 Base 2 1/8 x 1 1/4 In. Depth 1 1/2 In. Screw spacings of out- side holes 3 1/2 in. and of inside holes 2 1/2 in.</p>	<p align="center"><b>No. 122</b> Duplex Receptacle Body 10 Amps. 250 V.</p>  <p align="center">For Plate without Doors</p> <p align="center"><b>Price, Each \$0.75</b> Std. Pkg. 100 Wt., 70 Lbs. Carton 10-Schedule R2 Base 2 1/8 x 1 1/4 In. Depth 1 1/2 In. Screw spacings 3 1/2 in.</p>	<p align="center"><b>No. 125</b> Duplex Receptacle Body 10 Amps. 250 V.</p>  <p align="center">For Plate with Doors</p> <p align="center"><b>Price, Each \$0.85</b> Std. Pkg. 50 Wt., 35 Lbs. Carton 10-Schedule R2 Base 2 1/8 x 1 1/4 In. Depth 1 1/2 In. Screw spacings, 3 1/4 In.</p>
<p align="center"><b>No. 117</b> Receptacle and Type 0 Indicating D. P. Switch Combination Body with Plate 10 Amps. 250 V.</p>  <p align="center"><b>Price, Each \$2.00</b> Std. Pkg. 10 Wt., 15 Lbs. Carton 1-Schedule R2 Plate 4 1/2 x 2 3/4 In. Base 2 1/8 x 1 1/4 In. Depth 1 1/2 In. Screw spacings of out- side holes 3 1/2 in. and of inside holes 2 1/2 in. Price, less plate \$1.65.</p>	<p align="center"><b>No. 121</b> Pilot Body With Plate 10 Amps. 125 V.</p>  <p align="center"><b>Price, Each \$2.80</b> Std. Pkg. 10 Wt. 15 Lbs. Carton 1-Schedule R2 Plate 4 1/2 x 2 3/4 In. Base 2 1/8 x 1 1/4 In. Depth 1 1/2 In. Screw spacings 3 1/2 in. Lamp lights when plug is inserted. Does not have tandem slots. Price, less plate \$1.50.</p>	<p align="center"><b>No. 467</b> Flush Heater Control Combination</p>  <p align="center">Includes Spartan Receptacle.</p> <p align="center">For listing see another page.</p>	<p align="center"><b>No. 558</b> Flush Heater Control Combination</p>  <p align="center">Includes Spartan Duplex Receptacle</p> <p align="center">For listing see another page.</p>

The standard finish of flush plates is brush or old brass.



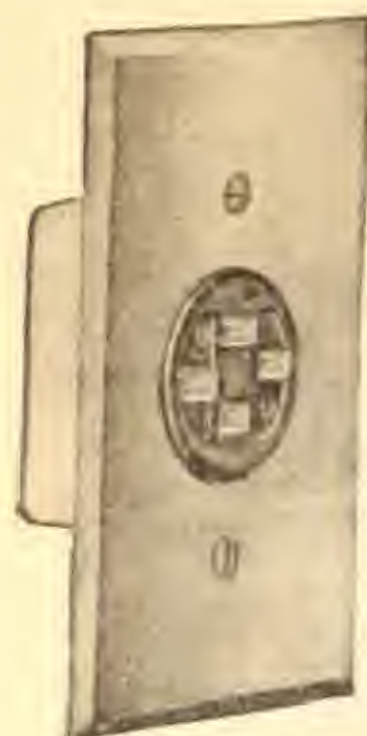
## BRYANT PLUGS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

## SCHEDULE H3

PLATES FOR SPARTAN STANDARD SINGLE  
FLUSH RECEPTACLES

No. 120



No. 429

Trade No.	Mfrs. No.	Description	DIMENSIONS INCHES		Car- ton	Std. Pkg.	Wt., lbs. Std. Pkg.	Price Each
			Vert.	Hor.				
123804	429	Single plate, stamped $\frac{1}{8}$ -in.	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	31	\$0.20
123805	545	Single plate, solid	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	36	.50
123806	529	Two-gang plate, solid	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	*	33	1.00
123907	530	Three-gang plate, solid	4 $\frac{1}{2}$	6 $\frac{3}{8}$	5	*	30	1.50
123808	531	Four-gang plate, solid	4 $\frac{1}{2}$	8 $\frac{3}{8}$	5	*	24	2.00
123809	3650	Two-gang combination plate, .040-inch thick, for standard push button switch and No. 120 Spartan receptacle	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	50	26	.40

Receptacles in gangs are spaced  $1\frac{3}{8}$  inches on centers.

The price of plates above four-gang (solid only), when dimensions and spacings are standard, is \$0.60 list per gang.

When ordering combination plates, specify F sections to accommodate No. 120 receptacles.

No. 124



No. 1709

123810	1709	Single plate, stamped $\frac{1}{8}$ -in.	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	35	.28
123811	544	Single plate, solid	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	40	.60
123812	526	Two-gang plate, solid	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	*	40	1.20
123813	527	Three-gang plates, solid	4 $\frac{1}{2}$	6 $\frac{3}{8}$	5	*	35	1.80
123814	528	Four-gang plates, solid	4 $\frac{1}{2}$	8 $\frac{3}{8}$	5	*	30	2.40

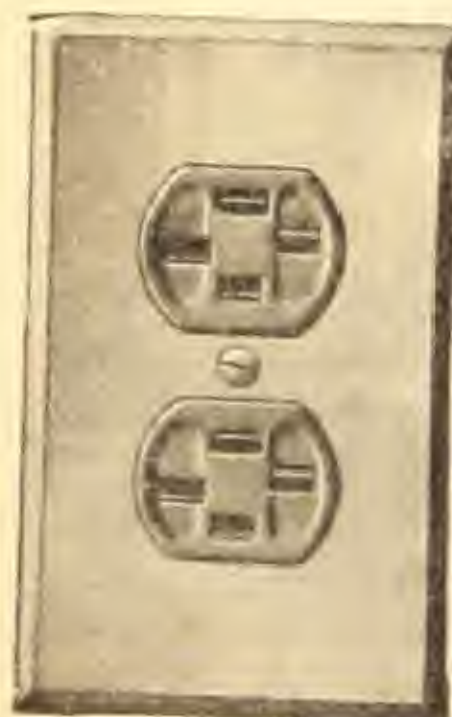
Receptacles in gangs spaced  $1\frac{3}{8}$  inches on centers.

The price of plates above four-gang solid only, when dimensions and spacings are standard, is \$0.70 list per gang.

When ordering combination plates, specify E sections to accommodate No. 124 receptacles.

PLATES FOR SPARTAN STANDARD  
DUPLEX FLUSH RECEPTACLES

No. 122



No. 550

123815	550	Single plate, stamped $\frac{1}{8}$ -in.	2 $\frac{3}{4}$	4 $\frac{1}{2}$	25	*	28	.20
194881	551	Single plate, solid	2 $\frac{3}{4}$	4 $\frac{1}{2}$	25	*	30	.65
194882	552	Two-gang plate, solid	4 $\frac{9}{16}$	4 $\frac{1}{2}$	10	*	32	1.30
194883	553	Three-gang plate, solid	6 $\frac{3}{8}$	4 $\frac{1}{2}$	5	*	28	1.95
194884	554	Four-gang plate, solid	8 $\frac{3}{8}$	4 $\frac{1}{2}$	5	*	25	2.60

When ordering combination plates, specify V sections to accommodate No. 122 receptacles.

The price of plates above four-gang solid only when dimensions and spacing are standard is \$0.75 list per gang.

No. 125



No. 579

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., lbs. Std. Pkg.	Price Each
194885	579	Single plate, solid 2 $\frac{3}{4}$ x4 $\frac{1}{2}$ inches	25	25	9	\$0.80

\*Standard package consists of a sufficient number to accommodate 100 receptacles.



# BRYANT FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

## D. D.—DISAPPEARING DOOR—FLUSH RECEPTACLES

10 Amperes, 250 Volts

The doors open and close automatically with the insertion and withdrawal of the plug. This makes the receptacle suitable for floor as well as baseboard use, as dirt and dust cannot enter. It is also a very safe receptacle as it is almost impossible to gain access to the live parts except by means of plug.



Nos. 430, 431 and 432



No. 630



No. 594



No. 431

Trade No.	Mfrs. No.	Description	Schedule	Car-ton	Std. Pkg.	Wt., lbs. Std Pkg.	Price Each
19732	430	D. D. porcelain receptacle	H2	10	30	15	\$0.50
123840	630	D. D. receptacle, composition	H2	10	30	15	.55
19734	432	D. D. composition brass covered, reversible	H2	10	30	7	.60
19744	539	D. D. composition plug, brass covered polarity	H2	10	30	7	.60
123841	494	D. D. composition plug, no cover reversible	H2	10	30	5	.60
123842	594	D. D. composition plug, side outlet, brass covered, reversible	H2	10	30	7	.65
123843	595	D. D. composition plug, two side outlets, brass covered, reversible	H2	10	30	7	.70
123844	616	D. D. to Spartan composition polarity adapter	H2	10	30	7	.65

Receptacle is  $2\frac{9}{16}$  inches high,  $1\frac{3}{4}$  inches wide,  $1\frac{9}{16}$  inches deep.

Outside supporting screw holes  $3\frac{9}{16}$  inches on centers.

Inside supporting screw holes  $2\frac{13}{16}$  inches on centers.

When ordering combination plates, specify D sections to accommodate D. D. receptacles.

Plugs Nos. 494, 594, and 595 will be made polarity when so specified without extra charge.

Cord hole of Nos. 432, 539, and 494 is  $\frac{1}{2}$ -inch diameter. Nos. 594 and 595 are designed for parallel cord and have holes  $\frac{3}{16}$ -inch by  $\frac{9}{16}$ -inch.

## PLATES FOR D. D. RECEPTACLES

19733	431	Single plate, stamped $\frac{1}{16}$ -in. $4\frac{1}{2} \times 2\frac{3}{4}$ in.	H3	10	30	11	.45
19745	520	Single plate, solid, $4\frac{1}{2} \times 2\frac{3}{4}$ in.	H3	25	*	12	.70
19746	523	2-gang plate, solid, $4\frac{1}{2} \times 4\frac{9}{16}$ in.	H3	10	*	15	1.40
19747	524	3-gang plate, solid, $4\frac{1}{2} \times 6\frac{3}{8}$ in.	H3	5	*	14	2.10
123919	525	4-gang plate, solid, $4\frac{1}{2} \times 8\frac{3}{8}$ in.	H3	5	*	13	2.80

Receptacles in gangs are spaced  $1\frac{13}{16}$  in. on centers.

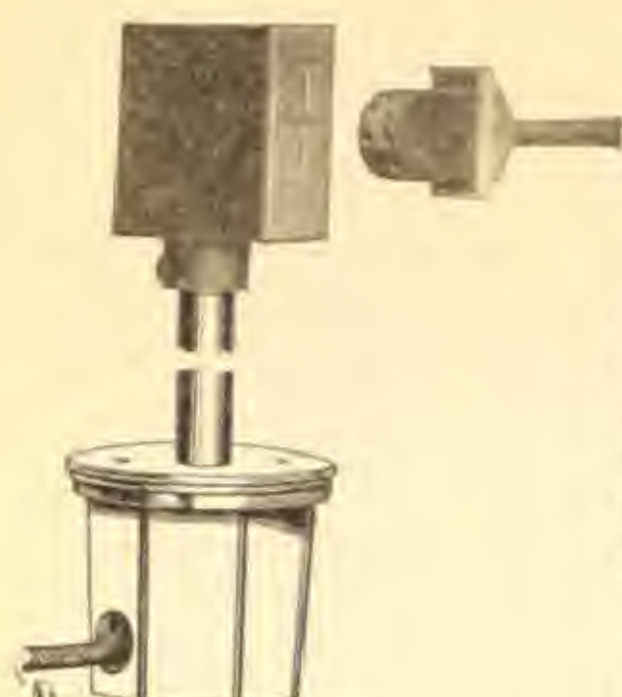
The price of plates above four-gang solid only, when dimensions and spacings are standard is \$0.70 list per gang.

\*A standard package of D. D. plates consists of a sufficient number to accommodate 25 receptacles.



## BRYANT FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD



No. 497

## D. D. FLOOR OUTLET EXTENSIONS

10 Amperes, 250 Volts

This device consists of a cast-iron box with a hub on the bottom, threaded for  $\frac{1}{2}$ -inch iron conduit. There is a set screw in the hub to prevent the receptacle from turning. The device is mounted on the end of the conduit, at a convenient distance above the floor. The lower end of the conduit is screwed into the cover of a water-tight floor box or into a bushed elbow or bulb tee embedded in the concrete.

Trade No.	Mfrs. No.	Description	Schedule	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
19740	497	Single, $3\frac{3}{4} \times 1\frac{3}{4}$ in.	H2	1	10	18	\$2.00
19741	498	Two-gang, $4\frac{5}{8} \times 1\frac{3}{4}$ in.	H2	1	5	12	5.00

No. 497 is  $2\frac{1}{8}$  inches deep and No. 498 is  $3\frac{3}{8}$  inches deep.

The regular finish of the box is black enamel and of the plate is brush brass, which will be shipped when the finish is not specified. For sherardized finish on the box, add to list price fifteen cents. For receptacles with cast-brass boxes add to list price \$1.00.

Plugs are not included in the above prices. These receptacles become polarized when polarized plugs are used.



No. 498

## HIGH CAPACITY D. D. RECEPTACLES

25 Amperes, 250 Volts

This receptacle has a carrying capacity suitable for atmospheric heaters, moving picture machines and other portable current consuming apparatus requiring a large amount of current. The hole in the plug is  $\frac{5}{8}$ -inch in diameter and is designed for No. 10 portable cable which should be used when the receptacle is to be loaded to its full capacity.

19735	446	High capacity receptacle, $2\frac{3}{8} \times 3\frac{1}{2}$ in.	H2	1	10	12	1 50
19736	447	Single plate, solid $4\frac{1}{2} \times 4\frac{9}{16}$ inches	H3	10	10	8	2.00
19737	448	Composition plug, brass covered polarity	H2	10	10	7	1 50

This device is  $2\frac{1}{2}$  inches deep and requires a two-gang deep box. There are holes for four supporting screws spaced  $3\frac{3}{4}$  inches on centers vertically and  $1\frac{3}{8}$  inches on centers horizontally.

Plates for mounting these receptacles in gangs will be furnished only on special order at a price of \$2.00 list per gang. When so mounted, the receptacles will be spaced  $3\frac{3}{8}$  inches on centers.

The standard finish of plates and of plugs is brush or old brass which will be shipped when the finish is not specified. When plates and plugs are ordered at the same time, the plugs will be finished to match the plates without extra charge.

When ordering combination plates, specify Z connections to accommodate No. 446 receptacles.



Nos. 446, 447 and 448

## HIGH CAPACITY FLUSH SWITCHES

30 Amperes, 250 Volts

This switch requires a two-gang box.

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
105269*	2568	Indicating gang switch.	1	10	18	\$2.00
105270†	2569	Single plate, solid, for above, $4\frac{1}{2} \times 4\frac{9}{16}$ in.	1	10	9	1 50

\*Schedule H2. †Schedule H3.

There are holes for four supporting screws spaced  $3\frac{3}{4}$  inches on centers vertically and  $1\frac{3}{8}$  inches on centers horizontally.

When ordering combination plates specify Y sections to accommodate No. 2568 receptacles.



Nos. 2568 and 2569



## BRYANT FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD



No. 1363



No. 397



No. 472

Nos. 1363, 1110, and 1364

## CHAPMAN RECEPTACLES

12 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Schedule	Car-ton	Std. Pkg.	Wt. Lbs.	Price Each
036278	1363	Porcelain receptacle, $2\frac{5}{8} \times 1\frac{1}{8}$ inches	H2	10	100	50	\$0.40
036280	1110	Porcelain plug, reversible	H2	25	100	10	.20
036285	486	Porcelain plug, polarity	H2	25	100	10	.20
036281	397	Composition plug, reversible	H2	25	25	3	.40

Outside supporting screw holes,  $3\frac{3}{8}$  inches on centers.

Inside supporting screw holes,  $2\frac{5}{8}$  inches on centers.

When ordering combination plates, specify C sections to accommodate No. 1363 receptacles.

### Plates

036279	1364	Single plate, $4\frac{1}{2} \times 2\frac{3}{4}$ in. Stamped	H3	25	*	35	.45
104642	543	Single plate, $4\frac{1}{2} \times 2\frac{3}{4}$ in. Solid	H3	25	*	43	.70
036282	1365	Two-gang plate, $4\frac{1}{2} \times 4\frac{3}{8}$ in.	H3	10	*	40	1.40
036283	1366	3-gang plate, $4\frac{1}{2} \times 6\frac{3}{8}$ in. Stamped	H3	5	*	39	2.10
036284	1367	4-gang plate, $4\frac{1}{2} \times 8\frac{3}{8}$ in. Solid	H3	5	*	36	2.80

Receptacles in gangs spaced  $1\frac{3}{8}$  inches on centers.

No. 1364 is stamped  $\frac{1}{8}$ -inch. The others are solid.

### Chapman to Edison Adapter—Each Outlet 660 Watts, 250 Volts

This adapts a Chapman receptacle to two Edison bases in multiple.

104641	472	Chapman to Edison Adapter	H2	5	10	7	.50
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\*A standard package consists of a sufficient number of plates to accommodate 100 receptacles.

## CHAPMAN RECEPTACLES—OLD STYLE

12 Amperes, 250 Volts

036286	281	Receptacle, porcelain, $2\frac{5}{8} \times 1\frac{1}{8}$ inches	H2	5	25	13	.70
123908	613	Receptacle, composition, $2\frac{5}{8} \times 1\frac{1}{8}$ inches	H2	5	25	13	.75
036287	282	Single plate, solid $4\frac{1}{4} \times 2\frac{1}{2}$ inches	H3	25	25	14	.65
036288	283*	Plug only, composition fusible $\frac{1}{2}$ -in. cord hole	H2	5	25	6	.50
123909	614*	Composition plug with hand grip, fusible $\frac{1}{2}$ -in. cord hole	H2	5	25	7	.55
123910	641	Composition plug with hand grip, fuseless $\frac{1}{2}$ -in. cord hole	H2	5	25	7	.55

Receptacle is  $1\frac{1}{8}$  inches deep.

Holes for supporting screws are spaced  $3\frac{3}{8}$  inches on centers.

Plates (solid only) for mounting these receptacles in gangs will be furnished only on special order at a price of \$0.70 list per gang. When so mounted the receptacle will be spaced  $1\frac{3}{8}$  inches on centers.

When ordering combination plates, specify N sections to accommodate No. 281 or No. 613 receptacles.

\*Not National Electrical Code Standard.



No. 281, 282 and 283



No. 613



No. 614



## BRYANT FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

## SCREW PLUG FLUSH RECEPTACLES

660 Watts, 250 Volts

These receptacles will receive any Edison attachment plug.



Nos. 1708 and 1709

Trade No.	Mfrs. No.	Description	Sched. No.	Car. ton	Std. Pkg.	Wt. Lbs.	Price Each
036275	1708	Screw plug receptacle 2 3/8 x 1 1/8 in.	H6	10	100	55	\$0.21

Receptacle is 1 1/2 inches deep.

Outside supporting screw holes 3 1/2 inches on centers.

Inside supporting screw holes, 2 3/8 inches on centers.

When ordering combination plates, to accommodate No. 1708 receptacles, specify E sections if lids are wanted and F sections if lids are not wanted.

## Plates with Lids

036276	1709	Single plate, 4 1/2 x 2 3/4 in.	H3	25	*	35	28
104643	544	Single plate, 4 1/2 x 2 3/4 in.	H3	25	*	45	60
104644	526	2-gang plate, 4 1/2 x 4 3/8 in.	H3	10	*	30	1.20
104645	527	3-gang plate, 4 1/2 x 6 3/8 in.	H3	5	*	28	1.80
104646	528	4-gang plate, 4 1/2 x 8 3/8 in.	H3	5	*	24	2.40

Above 4-gang solid only, \$0.60 per gang.

## Plates Without Lids

These plates are necessary when receptacles are to be used as lamp sockets.

036277	429	Single plate, 4 1/2 x 2 3/4 in.	H3	25	*	32	20
104647	545	Single plate, 4 1/2 x 2 3/4 in.	H3	25	*	43	50
104648	529	2-gang plate, 4 1/2 x 4 3/8 in.	H3	10	*	27	1.00
104649	530	3-gang plate, 4 1/2 x 6 3/8 in.	H3	5	*	25	1.50
104650	531	4-gang plate, 4 1/2 x 8 3/8 in.	H3	5	*	21	2.00

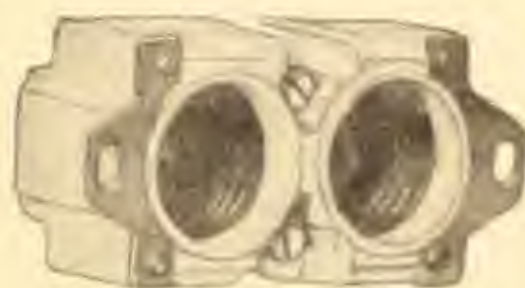
Receptacles in gangs spaced 1 3/8 inches on centers.

Nos. 1709 and 429 are stamped 1/8-inch. The others are solid.

The price of plates above four-gang solid only when dimensions and spacings are standard, is \$0.50 list per gang.



No. 429



No. 546

## DUPLEX SCREW PLUG FLUSH RECEPTACLES

Each Outlet, 660 Watts, 250 Volts

These receptacles will receive two Edison Screw Plugs of any standard type and can be installed in any standard single switch box.

121224	546	Duplex receptacle 1 3/8 x 2 3/8 inches	H2	10	30	18	60
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## Plate with Lid

121225	547	Solid plate 2 3/4 x 4 1/2	H3	30	30	10	80
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## Plate without Lid

121226	548	Solid plate, 2 3/4 x 4 1/2	H3	30	30	9	60
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Receptacle is 1 1/2 inches deep.

Holes for supporting screws are spaced 3 3/4 inches on centers.

\*A standard package consists of a sufficient number of plates to accommodate 100 receptacles.

The standard finish of plates is brush or old brass which will be shipped when the finish is not specified. For special finishes see another page.



Nos. 546 and 547



# BRYANT RECEPTACLES AND PLUGS

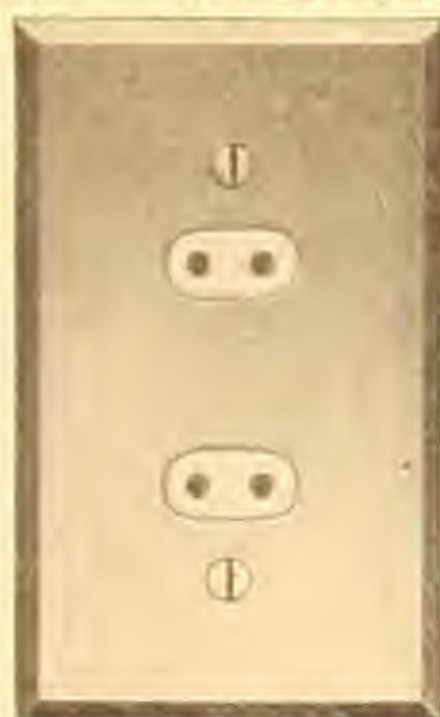
NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2



No. JB1509



Nos. JD411 and 412



Nos. 507 and 508



No. 624



No. JC



No. JE



Nos. 475 and 476



## JUNIOR FLUSH RECEPTACLES

12 AMPERES, 125 VOLTS—6 AMPERES, 250 Volts  
With Small Round Plate, 2 7/16 Inches in Diameter

Trade No.	Mfr. No.	Description	Carton Pkg.	Std. Wt., Lbs.	Price Each
071123	JB1509	With No. JB plug	1 25	12	80
071124	1509	Without plug	1 25	10	45

Holes for supporting screws are spaced 1 1/2 inches on centers. Porcelain is 1 inch in diameter.

With Large Round Plate 3 5/8 Inches in Diameter

With 3 1/4-inch Round Outlet Boxes

071126	JB394	With No. JB plug	1 25	25	1 00
071127	394	Without plug	1 25	20	65

Holes for supporting screws are spaced 2 3/4 inches on centers. Porcelain is 1 inch in diameter.

With Rectangular Plate 4 1/2 x 2 3/4 Inches for One Receptacle

071129	411	Receptacle only	25	25	5 40
†071130	412	Single Plate, stamped 1/16-inch	25	25	8 35

Outside supporting screw holes, 3 3/4 in. on centers. Inside supporting screw holes, 2 3/8 in. on centers.

When ordering Combination plates, specify "J" sections to accommodate No. 411 receptacles.

With Rectangular Plate 4 1/2 x 2 3/4 Inches, for Two Receptacles

105159	507	Two-gang receptacles	10	10	3 60
†105160	508	Plate, stamped 1/16-in.	10	10	3 45

Supporting screw holes spaced 3 3/4 in. on centers. When ordering combination plates, specify "L" sections to accommodate No. 507 receptacles.

## JUNIOR COMBINATION RECEPTACLES

A combination of a double-pole Type O indicating switch and a Junior Receptacle ready-wired. The line wires may be attached to either end of the device. If attached to switch end, the switch controls the receptacle as well as the outgoing circuit; but if attached to receptacle end, current may be taken off through the receptacle irrespective of the position of the switch, which will control only the other outgoing circuit.

105161	JB624	Receptacle with plug and plate, stamped, 1/16-inch	1	10	17 2.35
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Size of plate, 4 1/2 x 2 3/4 inches.

Holes for supporting screws are spaced 3 3/4 inches on centers outside; 2 3/8 inches inside.

When ordering combination plates, specify "U" sections to accommodate No. 509 receptacles.

## JUNIOR PLUGS

105162	JB	Brass covered plug	25	25	3 35
105170	*JC	Brass covered plug, with long prongs	25	25	4 50
105164	JD	Brass covered plug, fusible (3 amps.)	10	10	3 50
105163	JA	Porcelain plug	25	25	5 25

## JUNIOR ADAPTERS—660 WATTS

105165	468	Adapter permitting use of Junior plugs in Edison sockets	25	25	3 20
105166	JE	Junior to Edison adapter	10	30	6 20

## THREE-WIRE FLUSH RECEPTACLES

10 Amperes, 250 Volts

This receptacle takes the No. 429 series of plates listed on another page.

105167	475	3-wire plug receptacle	10	30	20 95
105168	476	3-wire polarized plug	10	30	6 35

Holes for supporting screws are spaced 3 3/4 inches on centers outside; 2 3/8 inches inside.

When ordering combination plates, specify "J" sections to accommodate No. 475 receptacles.

\*Not National Electrical Code Standard.

†Schedule H3.



BRYANT RECEPTACLES AND HEATER CONTROL  
COMBINATIONS

## NATIONAL ELECTRICAL CODE STANDARD

## BULL'S EYE RECEPTACLES

For 32-125 Volt Circuits



No. 428



No. 427

This device consists of a flush plate of standard dimensions in the center of which is a non-removable, ruby glass bull's-eye. The lighted lamp beneath serves as an effective warning or danger signal. The lamp holding receptacle may be installed individually or may be mounted up in gangs with switches and receptacles and the entire combination covered by a combination plate.



No. 413

Trade No.	Mfrs. No.	Description	Schedule	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
19748	427	Receptacle with No. 618 lamp, 125 volts	H2	10	30	17	\$1.00
123921	627	Receptacle with No. 619 lamp, 32 volts	H2	10	30	17	1.00
19749	428	Single plate, solid for above $4\frac{1}{2} \times 2\frac{3}{4}$ in.	H3	10	30	8	1.25
123922	618	Lamp, Form H, 2 C. P. clear, 125 volts, pear shape, carbon filament candelabra base	H2	10	30	3	.50
123923	619	Lamp, form H, 2 C. P. clear 32 volts, pear shape, carbon filament candelabra base	H2	10	30	3	.50

Receptacles are  $2\frac{5}{8}$  inches high,  $1\frac{3}{8}$  inches wide and  $1\frac{5}{8}$  inches deep. Gang plates special, \$1.25 per gang.

## READY WIRED BULL'S-EYE COMBINATIONS

10 Amperes, 125 Volts

19752	413	Combination complete...	H2	1	10	28	4.50
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This outfit consists of No. 427 lamp holder with No. 618, 125 volt lamp, No. 2520 D. P. switch cup, No. 2523 D. P. switch mechanism.

All mounted in a one-piece porcelain base with internal connections complete, ready for connections to the line wires, and covered by a B. P. two-gang combination plate.

92438	514	Combination complete...	H2	1	10	28	4.50
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This outfit consists of No. 427 lamp holder with No. 618, 125 volt lamp, No. 432 D. D. plug, No. 430 D. D. receptacle.

Mounted in a one-piece porcelain base with internal connections complete ready for connection to the line wires and covered by a B. D. two-gang combination plate.

The above two combinations are designed to be installed in a two-gang box. There are holes for four supporting screws, spaced  $3\frac{2}{3}$  inches on centers vertically and  $1\frac{3}{8}$  inches on centers horizontally.

The porcelains are  $2\frac{5}{8}$  inches high,  $3\frac{7}{8}$  inches wide, and  $1\frac{5}{8}$  inches deep.

19754	465	Combination complete with Plate, No. 618 lamp, 125 V.	H2	1	10	18	3.50
92441	495	Same as No. 465, except it has a No. 2495 three-point Type O switch...	H2	1	10	18	3.50
92440	469	Same as No. 465, except it has a D. P. Rotary Lock Switch.	H2	1	10	18	4.00

No. 465 combination consists of a No. 2494 Type O double-pole indicating switch mounted in a special porcelain that also provides a receptacle for a candelabra base lamp, which is covered by a perforated brass cage.

Outside supporting screw holes,  $3\frac{2}{3}$  inches on centers.

Inside supporting screw holes,  $2\frac{3}{8}$  inches on centers.

Plates for mounting these receptacles in gangs will be furnished only on special order, at a price of \$1.50 list per gang. When so mounted, the receptacles will be spaced  $1\frac{3}{8}$  inches on centers.



No. 514

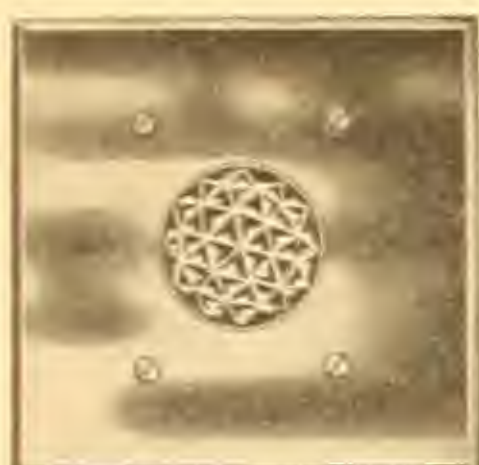


No. 465



# BRYANT RECEPTACLES AND CONTROL COMBINATIONS

NATIONAL ELECTRICAL CODE STANDARD



No. 436

## BULL'S-EYE RECEPTACLES

For 200-250 Volt Circuits

Lamps with candelabra bases are commercially limited to a maximum voltage of 125. When bull's-eye outfits are wanted for circuits above 125 volts, it is necessary to connect two No. 427 receptacles in series in a standard two-gang box and cover them with a No. 436 plate.

Trade No.	Mfrs. No.	Description	Sched. No.	Car- ton	Std. Pkg.	Wt., Lbs.	Price Each
19751	436*	Single plate solid, 4 1/2 x 4 3/8 inches	H3	1	10	8	\$1.60

## FLUSH HEATER CONTROL COMBINATIONS

660 Watts, 125 Volts

19767	437	Combination complete	H2	1	10	30	5.50
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This combination consists of No. 2520 D. P. switch cup, No. 2523 D. P. switch mechanism No. 427 lamp holder with No. 618, 125-volt lamp, No. 1708 screw plug receptacle.

All mounted in a one-piece porcelain base with internal connections complete, ready for connection with the line wires and covered by a P. B. E. three-gang, combination plate.

Price of combination without plate \$3.15.

10 Amperes, 125 Volts

19770	518	Combination complete	H2	1	10	35	6.00
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This combination consists of No. 2520 D. P. switch cup, No. 2523 D. P. switch mechanism, No. 427 lamp holder with No. 618, 125-volt lamp, No. 430 D. D. receptacle, and No. 432 D. D. plug.

All mounted in a one-piece porcelain base with internal connections complete, ready for connection with the line wires and covered by a P. B. D. three-gang combination plate.

Price of combination without plate \$3.55.

19769	467	Combination complete	H2	1	10	35	5.75
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Combination consists of No. 2520 D. P. switch cup, No. 2523 D. P. switch mechanism, No. 427 lamp holder with No. 618, 125-volt lamp, No. 120 Spartan receptacle.

All mounted in a one-piece porcelain base with internal connections complete ready for connection with the line wires and covered by a P. B. F. three-gang combination plate.

Price of combination without plate \$3.50 list.

19771	558	Combination complete	H2	1	10	35	6.25
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Combination consists of No. 2520 D. P. switch cup, No. 2523 D. P. switch mechanism, No. 427 lamp holder with No. 618, 125-volt lamp, No. 122 Spartan receptacle.

All mounted in a one-piece porcelain base with internal connections complete, ready for connection with the line wires and covered by a P. B. V. three-gang combination plate.

Price of combination without plate \$3.85 list.

92442	398	Combination complete	H2	1	10	30	6.00
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Combination consists of No. 1363 Chapman Receptacle, No. 397 Chapman plug, No. 427 lamp holder with No. 618, 125-volt lamp, No. 2494 D. P. indicating switch.

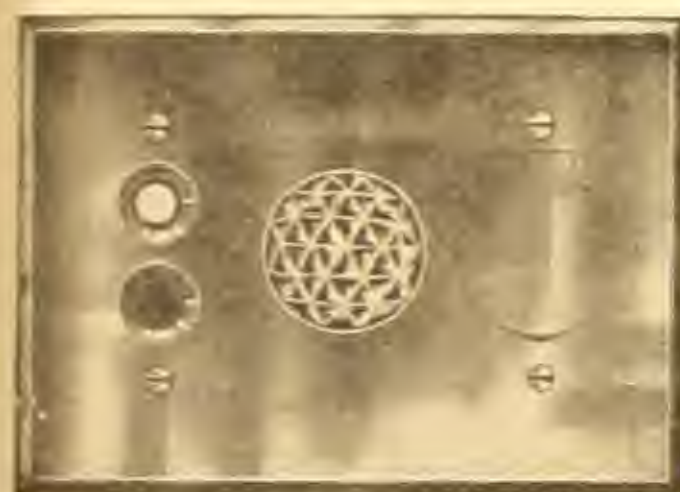
All mounted in a one-piece porcelain base with internal connections complete, ready for connection with the line wires and covered by a C. B. O. three-gang combination plate.

Price of combination without plate \$3.55 list.

The above combinations are designed to be installed in a three-gang box. There are holes for four supporting screws spaced 3 3/8 inches on centers vertically and 3 5/8 inches on centers horizontally.

Porcelains measure 2 5/8 inches high, 5 5/8 inches long and 1 5/8 inches deep.

\*Not National Electrical Code Standard.



No. 437



No. 518



No. 558



No. 398



## BRYANT RECEPTACLES AND PLUGS



No. 621



No. 622



Nos. 556 and 429



No. 652



No. 653



No. 623



No. 651

## RECEPTACLES AND PLUGS

20 AMPERES, 250 VOLTS—POLARIZED

These plugs and receptacles are suitable for use on farm lighting and other 32-volt circuits for supplying current to flat irons and other current consuming devices drawing 400 to 660 watts. The cord hole in the plugs is  $\frac{3}{8}$  inch in diameter, making them suitable for No. 12 approved portable cord which should be used when the plugs are to be loaded to their full rated capacity.

## Receptacles

Trade No.	Mfrs No.	Description	Sched-ule	Car-ton	Std. Wt. Lbs.	Price Each
19772	621	Surface receptacle for open (cleat) wiring.	R2	10	30 10	\$0 55
Diameter of main base is $2\frac{1}{4}$ inches; diameter over lugs, $2\frac{1}{8}$ inches; height, $1\frac{5}{8}$ inches. There are two pairs of holes for supporting screws, respectively, $1\frac{1}{8}$ and $2\frac{3}{8}$ inches on centers.						
19773	622	Surface receptacle for concealed wiring.	R2	10	30 9	55
Diameter of base, $2\frac{1}{4}$ inches. Height, $\frac{9}{16}$ inches. Holes for supporting screws spaced $1\frac{1}{2}$ inches on centers.						
19774	556	Flush receptacle.	R2	10	30 17	75
Receptacle is $2\frac{3}{8}$ inches high, $1\frac{9}{16}$ inches wide, 1 inch deep. Outside supporting screw holes, $3\frac{3}{4}$ inches on centers; inside holes $2\frac{9}{16}$ inches.						

## Plates for No. 556 Receptacles

These are the same plates as used in connection with Spartan three-wire and Edison screw plug receptacles.

036277	429	Single plate, stamped $\frac{1}{16}$ -in., $4\frac{1}{2} \times 2\frac{3}{4}$ in.	H3	25	* 31	20
104647	545	Single plate, solid, $4\frac{1}{2} \times 2\frac{3}{4}$ in.	H3	25	* 36	50
104648	529	Two-gang plate, solid, $4\frac{1}{2} \times 4\frac{3}{8}$ in.	H3	10	* 33	1 00
104649	530	Three-gang plate, solid, $4\frac{1}{2} \times 6\frac{3}{8}$ in.	H3	5	* 30	1 50
104650	531	Four-gang plate, solid, $4\frac{1}{2} \times 8\frac{3}{8}$ in.	H3	5	* 24	2 00
19775	3650	Two-gang combination plate, $4\frac{1}{2} \times 4\frac{3}{8}$ in., stamped .040-inch thick for standard push button switch and No. 556 Spartan receptacle.	H3	10	50 26	40

Receptacles in gangs are spaced  $1\frac{3}{8}$  inches on centers.

## Plugs

19776	652	Composition plug.	R2	10	30 10	30
19777	653	Composition plug, brass covered.	R2	10	30 11	55
19778	623	Composition plug, with cord grip.	R2	10	30 12	50

The standard finish for No. 653 plugs is brush brass. When No. 653 plugs are ordered at the same time and with an equal quantity of flush receptacles and plates, there will be no extra charge for special finishes on the plugs.

## APPLIANCE SWITCH PLUGS

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

These plugs fit most heating appliances; may be used in connection with appliances having round pins of  $\frac{3}{16}$ -inch diameter, spaced  $\frac{5}{8}$ -inch to  $\frac{3}{4}$ -inch on centers; also with appliances having flat pins, provided that in either case the guard into or through which the plug is inserted is not less than  $1\frac{3}{8}$  inches by  $\frac{5}{8}$  inch.

194896	651	With switch.	H2	10	50 15	80
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\*A standard package of plates consists of sufficient number to accommodate 100 receptacles.



# BRYANT RECEPTACLES AND CONTROL COMBINATIONS

## NATIONAL ELECTRICAL CODE STANDARD

### SCHEDULE H2

#### K-W SURFACE FUSELESS RECEPTACLES AND PLUGS

12 Amperes, 125 Volts; 6 Amperes, 250 Volts

Caps are interchangeable and will fit any K-W Rosette Base.



No. 1682

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
036260	1681	Concealed.....	1	25	22	\$0.50
036261	1682	Cleat.....	1	25	22	.50
036262	1683	Two-wire molding....	1	25	22	.50
036264	1684	*Combination.....	1	25	22	.50
036270	1510	Plug only .....	25	25	5	.25



No. 341

#### BRYANT SURFACE PLUG RECEPTACLES

For Concealed Work

25 Amperes, 250 Volts

Porcelain parts are massive and the current-carrying parts will stand heavy overloads without danger of heating. The contacts are marked in such a way that the plug can be restored to the receptacle without reversing polarity, but polarity can be reversed when desired.



No. 466

036271	341	Plug receptacle complete .....	5	25	30	.60
036272	342	Receptacle only.....	5	25	22	.35
036273	343	Plug only.....	5	25	12	.25
036274	344	Porcelain sub-base for cleat and molding work.....	5	20	10	.10

#### SURFACE HEATER CONTROL COMBINATIONS

10 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs.	Price Each
19765	466	Complete.....	1	10	30	\$1.50

Combination consists of a 10-ampere, 250-volt indicating switch, a Spartan concealed receptacle and, in parallel with it, an Edison receptacle for a pilot lamp.

Base measures 4x5 inches. Outfit may be used for surface or concealed work. Cover is reversible so that when used for surface work, feed wires may enter either from above or below.

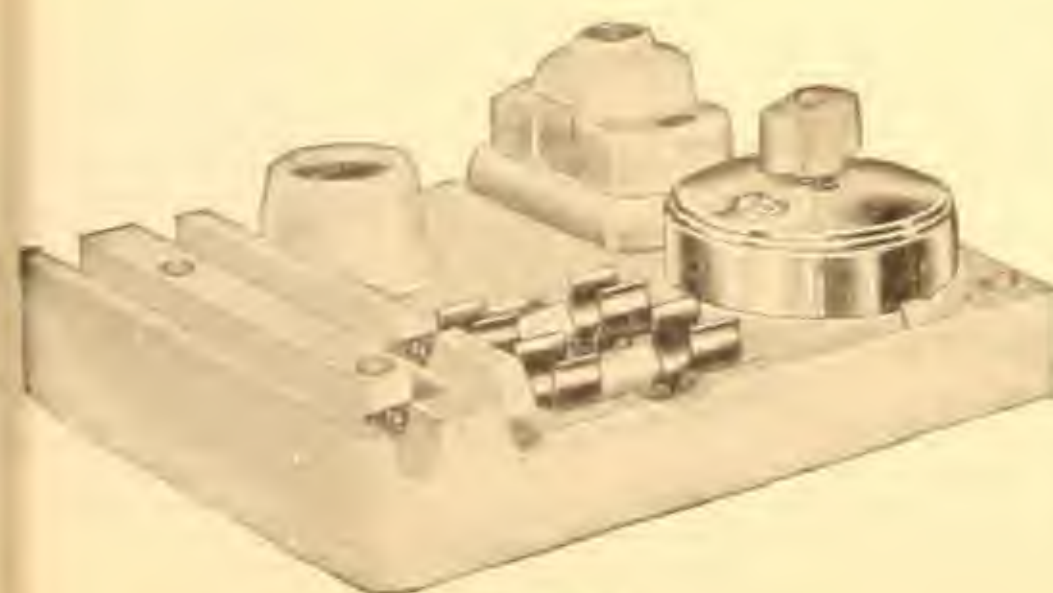
25 Amperes, 250 Volts

19766	439	Complete.....	1	10	79	3.50
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Combination consists of No. 1919 branch cut-out, D. P. indicating switch, No. 342 25-ampere plug receptacle, No. 343 25-ampere plug and No. 4000 receptacle for pilot lamp, without cap.

Base measures 5 $\frac{3}{4}$ x8 $\frac{3}{8}$  inches.

\*Not National Electrical Code Standard.



No. 439



## PERKINS FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE H2



No. 2709



No. 2640

## TYPE D DUPLEX SWITCHES

10 Amperes, 125 Volts—5 Amperes, 250 Volts

The Type D switch consists of two Type O switch mechanisms mounted in a single porcelain cup of standard dimensions.

		Two Single-pole Switches, Separate Feeds		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
Trade No.	Mfrs. No.	Description					
195093	2709	Single-pole.....		10	10	8	\$2.00
Two Single-pole Switches, Common Feed							
195094	2639	Single-pole.....		10	10	8	1.80
One Single-pole Switch and One Three-point Switch, Common Feed							
195095	2710	Single-pole and three-point.....		10	10	8	2.00
Two Three-Point Switches, Common Feed							
195096	2737	Three-point.....		10	10	8	2.20
One Single-pole Switch and One Two-Circuit Electroliner Switch, Common Feed							
195097	2738	Single-pole and electroliner 1-2-1 & 2-off.....		10	10	8	2.00
195098	2739	Single-pole and electroliner 1-1 & 2-1-off.....		10	10	8	2.00
195099	2740	Single-pole and electroliner 1-off-2-off.....		10	10	8	2.00
195100	2741	Single-pole and electroliner 1-off-1 & 2-off.....		10	10	8	2.00
195101	2742	Single-pole and electroliner 1-1 & 2-off.....		10	10	8	2.00
195102	2743	Single-pole and two-speed fan motor.....		10	10	8	2.00

The two-speed switch operates as follows: 1st position—circuit 1 on. 2nd position—circuit 1 off and circuit 2 on. 3rd position—all circuits off.

## Electroliner

A single-pole switch is connected in series with a three-circuit electroliner switch which has no open point.

195103	2640	Electroliner 1-1 & 2-1 & 2 & 3.....	10	10	8	2.00
195104	2744	Electroliner 1-2-3-1 & 2 & 3.....	10	10	8	2.00
195105	2745	Electroliner 1-1 & 2-1 & 3-1 & 2 & 3.....	10	10	8	2.00
195106	2746	Electroliner 1-2-1 & 2-1 & 2 & 3.....	10	10	8	2.00
195107	2747	Three-speed fan motor.....	10	10	8	2.00

The three-speed switch has the following connections: 1st position—circuit 1 on. 2nd position—circuits 1 and 2 on. 3rd position—circuits 1 and 3 on, circuit 2 off.

Porcelain cups measure  $2\frac{3}{8}$  inches high,  $1\frac{1}{8}$  inches wide,  $1\frac{3}{8}$  inches deep.

Outside supporting screw holes,  $3\frac{9}{16}$  inches on centers. Inside supporting screw holes,  $2\frac{3}{8}$  inches on centers.

When ordering combination plates, specify P sections to accommodate Type D Switches.



# BRYANT-PERKINS FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE H2

## BRYANT PUSH BUTTON SWITCHES

Switches are dirt-proof, indestructible and are encased in molded insulation.

### Gang Switches

Trade No.	Mfrs. No.	CAPACITY, AMPERES		Style	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
		125 Volts	250 Volts					
100495	601†	10	5	Single-pole.....	10	50*	32	\$0.72
100496	603†	10	5	Three-point.....	10	20*	12	.88
100497	604†	10	5	Four-point.....	10	10*	7	2.00
100498	602†	10	10	Double-pole.....	10	10*	7	.88
100499	609†	20	20	Double-pole.....	10	10*	7	1.40

### Lock Gang Switches

100500	605	10	5	Single-pole.....	10	50*	32	1.17
100501	607	10	5	Three-point.....	10	20*	12	1.33
100502	608	10	5	Four-point.....	10	10*	7	2.45
100503	606	10	10	Double-pole.....	10	10*	7	1.33
100504	610	20	20	Double-pole.....	10	10*	7	1.85

## PERKINS PUSH BUTTON GANG SWITCHES

021342	2201†	10	5	Single-pole.....	10	100*	60	.45
021344	2203†	10	5	Three-point.....	10	50*	30	.70
021345	2204†	10	5	Four-point.....	10	10*	7	2.00
021343	2202†	10	10	Double-pole.....	10	50*	30	.70
19802	2623†	20	20	Double-pole.....	10	20*	12	1.00

### Electrolier

19804	2625	5	2	1-2-1&2-off....	10	10	8	1.05
19805	2626	5	2	1-1&2-1off....	10	10	8	1.05
19806	2627	5	2	1-1&2-1&2&3-off	10	10	8	1.05
100505	2628	5	2	1-off-2-off....	10	10	8	1.05
100506	2629	5	2	1-off-1&2-off....	10	10	8	1.05
100507	2630	5	2	1-1&2-off....	10	10	8	1.05
100508	2631	5	2	1-2-off or 2-speed	10	10	8	1.05
100509	2632	5	2	1-2-3-off or 3-speed	10	10	8	1.05

## PERKINS PUSH BUTTON LOCK GANG SWITCHES

021346	2295	10	5	Single-pole.....	10	100*	60	1.06
021347	2296	10	5	Three-point.....	10	50*	30	1.30
021348	2297	10	5	Four-point.....	10	10*	7	2.50
021349	2298	10	10	Double-pole.....	10	50*	30	1.30
19803	2624	20	20	Double-pole.....	10	20*	12	1.50

## YANKEE PUSH BUTTON GANG SWITCHES

121025	2901	10	5	Single-pole.....	10	100	55	.35
121026	2903	10	5	Three-point.....	10	50	32	.50

## MOMENTARY CONTACT FLUSH SWITCHES

In these switches, the circuit is closed only while the button is held in. Switches Nos. 2642 and 2644 are so constructed that it is impossible to close both circuits at once.

### Gang Switches

100512	2641	10	5	Single-circuit, normally open....	10	10	7	1.90
121027	2707	10	5	Single-circuit, normally closed....	10	10	7	1.90
100513	2642	10	5	Two-circuit, normally open....	10	10	9	2.40
121028	2735	10	5	Two-circuit, normally closed....	10	10	9	2.40

### Lock Gang Switches

121023	2643	10	5	Single-circuit, normally open....	10	10	7	2.35
121029	2708	10	5	Single-circuit, normally closed....	10	10	7	2.35
121024	2644	10	5	Two-circuit, normally open....	10	10	9	2.85
121030	2736	10	5	Two-circuit, normally closed....	10	10	9	2.85

One No. 2299 key is furnished with each lock switch.

\*Button and lock switches of the same description may be assorted to make up standard package quantity. For instance, Nos. 601 and 605; Nos. 2203 and 2296, etc. No other assortment permissible.

†For switches with both buttons white ivory, regular length, add \$1.00 list.



No. 602



No. 2202



No. 2295



No. 2901



No. 2642



## PERKINS FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD



No. 2460



No. 3641

TYPE O PUSH BUTTON GANG SWITCHES  
SCHEDULE H2

Trade No.	Mfrs. No.	CAPACITY AMPERES		Style	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
		125 Volts	250 Volts					
044001	2457	10	5	Single-pole	10	50	32	\$1.00
044002	2458	10	5	Three-point	10	50	32	1.05
044003	2459	5	2	Four-point	10	10	7	1.05
044004	2460	5	2	Electroliner, 1-2-1 & 2-off	10	10	7	1.05
044005	2461	5	2	Electroliner, 1-1 & 2-1 & 2 & 3-off	10	10	7	1.05
044006	2462	10	10	Double-pole	10	50	32	1.05
With Indicating Dial in End of Button								
044007	2491	10	5	Single-pole	10	50	32	1.10
044008	2492	5	2	Electroliner, 1-2-1 & 2-off	10	10	7	1.15
044009	2493	5	2	Electroliner, 1-1 & 2-1 & 2 & 3-off	10	10	7	1.15
044010	2494	10	10	Double-pole	10	50	32	1.15

Outside supporting screw holes,  $3\frac{5}{8}$  inches on centers.

Inside supporting screw holes,  $2\frac{3}{8}$  inches on centers.

Switches will be furnished with black buttons, unless otherwise specified, but buttons can be finished to match plates without extra charge.

These switches can also be supplied to make the same connections as Nos. 2626, 2628, 2629 and 2632 listed on a previous page.

When ordering combination plates, specify "O" sections to accommodate Type O switches.

PLATES FOR TYPE O SWITCHES  
SCHEDULE H3

In One Horizontal Row

Trade No.	Mfrs. No.	No. of Switches	DIMENS., INCHES		Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
			Height	Length				
043916	3641	1	$4\frac{1}{2}$	$2\frac{3}{4}$	25	*	30	\$0.35
043917	3642	2	$4\frac{1}{2}$	$4\frac{9}{16}$	10	*	32	70
Solid								
043918	3643	3	$4\frac{1}{2}$	$6\frac{3}{8}$	5	*	28	1.50
043919	3644	4	$4\frac{1}{2}$	$8\frac{3}{16}$	5	*	26	2.00

Switches in gangs spaced  $1\frac{3}{8}$  inches on centers.

Standard package consists of a sufficient number of plates to accommodate 100 switches



# PLATES FOR BRYANT-PERKINS FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

## SOLID PLATES FOR PUSH BUTTON SWITCHES

### In One Horizontal Row



Nos. 3166, 3640 and 3666

Trade No.	Mfrs. No.	No. of Switches	Schedule	DIMENS., INCHES Height	Length	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
92459	3639	1	H3	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	41	\$0.50
92460	3640	2	H3	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	*	39	1.00
021366	3167	3	H3	4 $\frac{1}{2}$	6 $\frac{3}{8}$	5	*	31	1.50
021367	3168	4	H3	4 $\frac{1}{2}$	8 $\frac{3}{16}$	6	*	27	2.00
021368	3169	5	H3	4 $\frac{1}{2}$	10	5	*	26	3.00
021369	3170	6	H3	4 $\frac{1}{2}$	11 $\frac{3}{16}$	1	*	28	3.60
021370	3171	7	H3	4 $\frac{1}{2}$	13 $\frac{5}{8}$	1	*	26	4.20
021371	3172	8	H3	4 $\frac{1}{2}$	15 $\frac{7}{16}$	1	*	28	4.80

### In Two Horizontal Rows

92467	3672	4	H3	8 $\frac{1}{8}$	4 $\frac{9}{16}$	5	*	30	2.40
92468	3673	6	H3	8 $\frac{1}{8}$	6 $\frac{3}{8}$	1	*	32	3.60
92469	3674	8	H3	8 $\frac{1}{8}$	8 $\frac{3}{16}$	1	*	30	4.80

Switches in gangs spaced 1 $\frac{3}{16}$  inches on centers.

### Tandem, in One Vertical Row

021372	3369	2	H3	8 $\frac{1}{8}$	2 $\frac{3}{4}$	10	*	35	1.20
021373	3370	3	H3	11 $\frac{3}{4}$	2 $\frac{3}{4}$	10	*	32	1.80
021374	3371	4	H3	15 $\frac{3}{8}$	2 $\frac{3}{4}$	1	*	30	2.40

Switches in tandem spaced 3 $\frac{5}{8}$  inches on centers.

### Stamped—.060-inch Metal

021364	3165	1	H3	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	32	.35
021365	3166	2	H3	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	*	30	.70

### Struck Up—.040-inch Metal

037191	3665	1	H1	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	26	.14
037192	3666	2	H4	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	*	25	.28
037193	3667	3	H4	4 $\frac{1}{2}$	6 $\frac{3}{8}$	5	*	18	.42
92461	3634	4	H3	4 $\frac{1}{2}$	8 $\frac{3}{16}$	5	*	22	.88
92462	3635	5	H3	4 $\frac{1}{2}$	10	5	*	15	1.10
92463	3636	6	H3	4 $\frac{1}{2}$	11 $\frac{3}{16}$	1	*	19	1.32
92464	3637	7	H3	4 $\frac{1}{2}$	13 $\frac{5}{8}$	1	*	16	1.54
92465	3638	8	H3	4 $\frac{1}{2}$	15 $\frac{7}{16}$	1	*	15	1.76
123906	3650		H3	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	50	25	.40

No. 3650 is a two-gang combination plate for standard push button switch and No. 120 Spartan receptacle.

### With Round Corners and Edges—.040-inch Metal

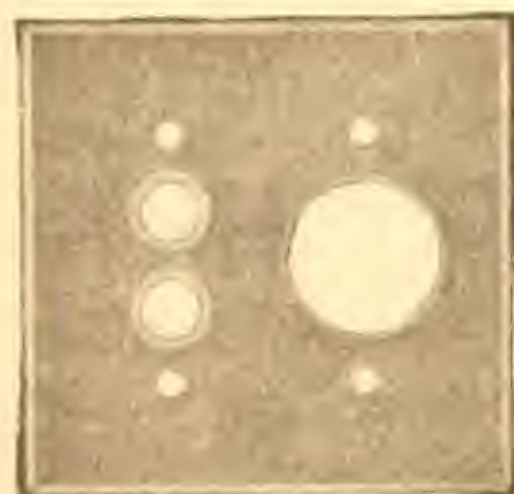
043913	3631	1	H4	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	32	.14
043914	3632	2	H4	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	*	27	.28
043915	3633	3	H4	4 $\frac{1}{2}$	6 $\frac{3}{8}$	5	*	17	.42

### Steel Plates, Brass-plated—.040-inch Metal

16726	3621	1	H3	4 $\frac{1}{2}$	2 $\frac{3}{4}$	25	*	25	.12
16727	3622	2	H3	4 $\frac{1}{2}$	4 $\frac{9}{16}$	10	*	24	.24
16728	3623	3	H3	4 $\frac{1}{2}$	6 $\frac{3}{8}$	5	*	16	.36

The only special finish in which steel plates can be furnished is genuine Bauer-barff, for which add 36 cents each.

\*A standard package of plates for push button switches consists of a sufficient number to accommodate 100 switches.



No. 3650



## PLATES FOR BRYANT-PERKINS FLUSH SWITCHES

Schedule H3

## BLANK PLATES

Holes for supporting screws are spaced  $3\frac{3}{4}$  inches on centers. $\frac{1}{8}$ -inch Brass, Stamped

Trade No.	Mfrs. No.	Description	Vertical	Horizontal	Carton	Std. Pkg.	Price Each
92445	3546	Single	$4\frac{1}{2}$	$2\frac{3}{4}$	25	*	\$0.35
92446	3628	Two-gang	$4\frac{1}{2}$	$4\frac{3}{8}$	10	*	.70

Struck Up—.040-inch Brass

92449	3551	Single	$4\frac{1}{2}$	$2\frac{3}{4}$	25	*	.22
92450	3624	Two-gang	$4\frac{1}{2}$	$4\frac{3}{8}$	10	*	.44
92451	3625	Three-gang	$4\frac{1}{2}$	$6\frac{3}{8}$	5	*	.66

Struck Up—.040-inch Steel

92454	3556	Single	$4\frac{1}{2}$	$2\frac{3}{4}$	25	*	.12
92455	3626	Two-gang	$4\frac{1}{2}$	$4\frac{3}{8}$	10	*	.24
92456	3627	Three-gang	$4\frac{1}{2}$	$6\frac{3}{8}$	5	*	.36

Solid Brass

195127	3646	Single*	$4\frac{1}{2}$	$2\frac{3}{4}$	25	*	.50
195128	3647	Two-gang	$4\frac{1}{2}$	$4\frac{3}{8}$	10	*	1.00
195129	3648	Three-gang	$4\frac{1}{2}$	$6\frac{3}{8}$	5	*	1.50

## SINGLE TELEPHONE PLATES

With One Composition Bushing with  $\frac{1}{8}$ -inch Hole

Solid Brass

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., lbs.	Price Each
195130	3649	With $\frac{3}{8}$ -inch bushing	10	*	45	\$0.53

 $\frac{1}{8}$ -inch Brass, Stamped

92447	3606	With $\frac{3}{8}$ -inch bushing	10	*	40	.38
92452	3616	With $\frac{3}{8}$ -inch bushing	10	*	35	.25

.040-inch Brass, Stamped

92457	3617	With $\frac{3}{8}$ -inch bushing	10	*	34	.15
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With Two Composition Bushings with  $\frac{1}{8}$ -inch Hole

Solid Brass

195131	3651	With $\frac{3}{8}$ -inch bushing	10	*	45	.55
92448	3618	With $\frac{3}{8}$ -inch bushing	10	*	40	.40
92453	3619	With $\frac{3}{8}$ -inch bushing	10	*	35	.27
92458	3620	With $\frac{3}{8}$ -inch bushing	10	*	34	.17

These plates will be supplied in two-gang sizes at double the list price of the respective single plates and in three-gang sizes except  $\frac{1}{8}$ -inch brass at three times the list price of the single plates. Above three-gang they will be furnished solid only at \$0.65 list per gang.

## SINGLE BELL PUSH PLATES

For Circuits not over 12 Volts

Solid Brass

195132	3668	.....	10	†	24	\$1.00
195133	3669	.....	10	†	21	.85
195134	3670	.....	10	†	18	.72
195135	3671	.....	10	†	17	.62

These plates will be supplied in two-gang sizes at double the list price of the respective single plates and in three-gang sizes except  $\frac{1}{8}$ -inch brass at three times the list price of the single plates. Above three-gang they will be furnished solid only at \$1.10 list per gang.

Holes for supporting screws are spaced  $3\frac{3}{4}$  inches on centers.

\*A standard package of telephone plates consists of 100, assorted from all those listed.

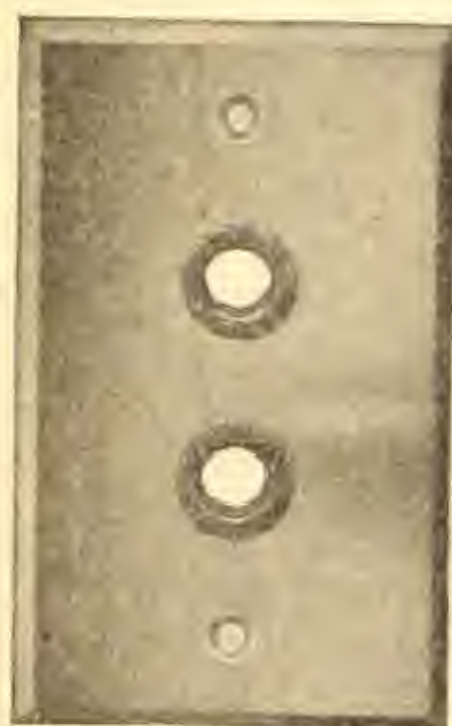
†A standard package of bell plates consists of 50, assorted from all those listed.



No. 3546



No. 3649



No. 3651



No. 3668



# PERKINS FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD



No. 2208



No. 3182



Nos. 2568 and 2569

## ROTARY GANG SWITCHES

### SCHEDULE H2

Trade No.	Mfrs. No.	CAP. AMPS. 125 V. 250 V.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
021350	2205	5 3	Single-pole	10	100	60	\$0.62
021351	2206	10 5	Single-pole	10	50	30	.71
021352	2325	5 3	Three-point	10	50	30	.82
021353	2208	10 5	Three-point	10	50	30	1.05
021354	2209	5 2	Four-point	10	10	7	1.05
021355	2224	5 2	Electroliner, 2-cir.	10	10	7	1.05
021356	2210	5 2	Electroliner, 3-cir.	10	10	7	1.05
021357	2207	10 10	Double-pole	10	50	30	1.05

When ordering combination plates, specify "R" sections to accommodate these switches.

These switches can also be supplied to make the same connections as Nos. 2649, 2653, 2657 and 2664 listed on another page.

## PLATES FOR ROTARY SWITCHES

### SCHEDULE H3

#### In One Horizontal Row

Trade No.	Mfrs. No.	No. of Switches	DIMENS., INCHES Height Length	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
105267	†3629	1	4 1/2 23 3/4	*	32	\$0.40
105268	†3630	1	4 1/2 23 3/4	*	37	.53
021375	3181	1	4 1/2 23 3/4	*	55	.60
021376	3182	2	4 1/2 40 5/8	*	48	1.20
021377	3183	3	4 1/2 63 5/8	*	35	1.80
021378	3184	4	4 1/2 83 5/8	*	34	2.40

Switches in gangs spaced 1 9/16 inches on centers.

Gang plates for indicating switches will be made only on special order.

\*A standard package of plates for rotary switches consists of a sufficient number to accommodate 100 switches.

†Struck up out of .040-inch brass.

‡Stamped out of 1/16-inch brass.

## HIGH CAPACITY FLUSH SWITCHES

30 Amperes, 250 Volts

This switch requires a two-gang box.

Trade No.	Mfrs. No.	Description	Schedule	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
105269	2568	Indicating gang switch	H 2	1	10	18	\$2.00
105270	2569	Single plate for above, 4 1/2 x 4 5/8 inches	H 3	1	10	9	1.50

There are holes for four supporting screws spaced 3 5/8 inches on centers vertically and 1 1/16 inches on centers horizontally.

When ordering combination plates, specify "Y" sections to accommodate No. 2568 switches.

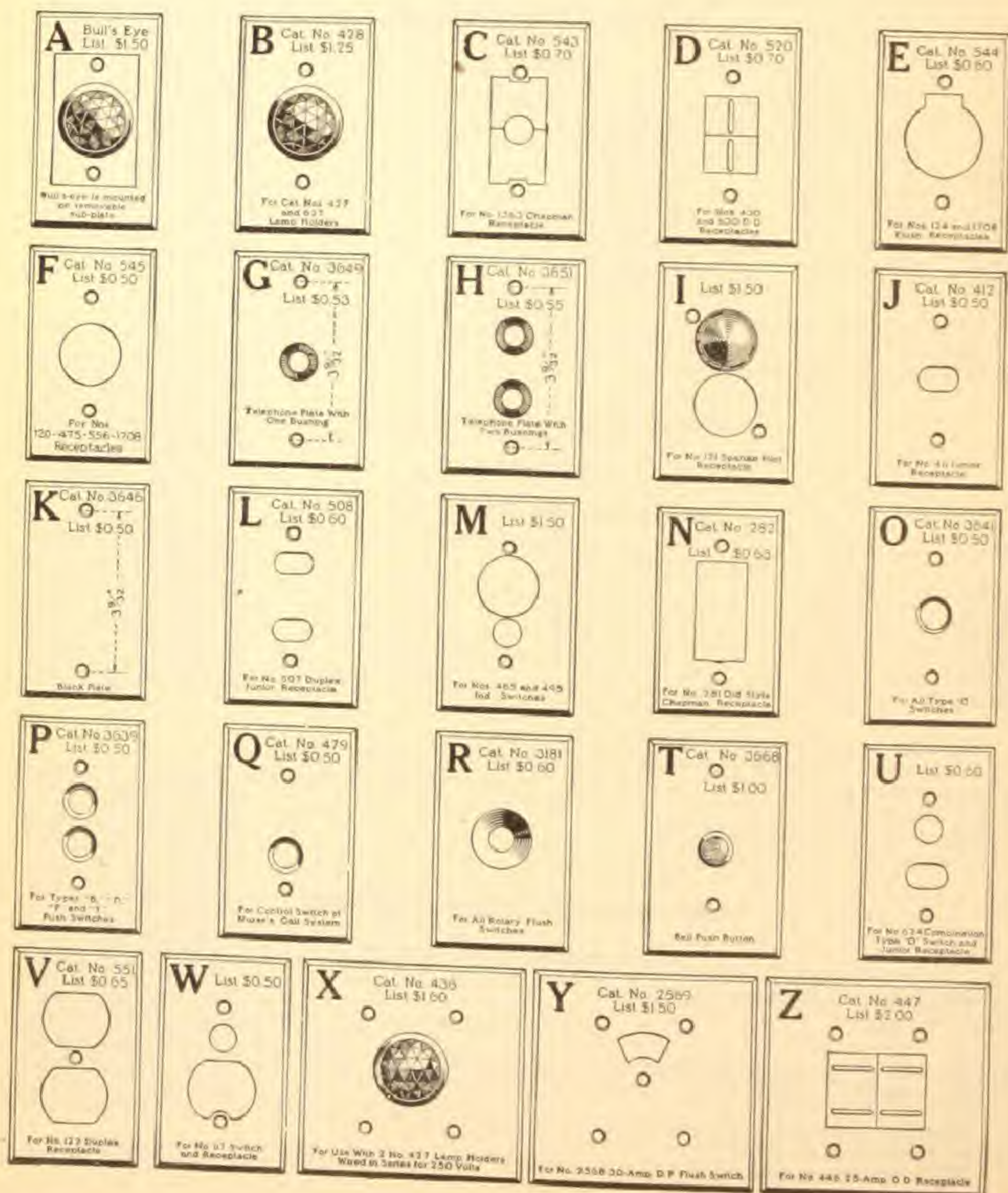


## PERKINS COMBINATION PLATES

## SCHEDULE H4

Combination plates should be described by using the letters shown below on cuts of the respective plates, giving the letter in order from left to right, or from top to bottom, as the devices are to be mounted. The list price, when dimensions and spacings are standard and the devices are arranged in one horizontal row, will be the sum of the lists as shown. For plates with devices mounted tandem or in more than one horizontal row, add 20 per cent to the sum of the list prices. The standard package quantity is ten plates of one description, not ten gauges.

A combination plate cannot be so considered unless it is described by at least two different letters. Standard spacings and dimensions are the same as those given on other pages. For plates of special dimensions and spacings see another page.





## PERKINS SWITCH PLATES

### SPECIAL FINISHES ON FLUSH PLATES

The standard finish on all flush plates, unless otherwise noted, is brush brass, which will be shipped when the finish is not specified. For all other finishes, except those requiring gold or silver, which will be quoted on application, see another page.

The standard package quantity will be the same as for standard finish; standard and special finishes may be assorted to make up the standard package quantity; assortment of Mfrs. numbers may be made only as indicated on the pages where the plates are listed. The schedule for the special finish will be the same as that covering the plates.

### PLATES OF SPECIAL METAL, SOLID ONLY

Plates of genuine rolled bronze, when dimensions and spacings are standard, will be furnished at 50 per cent addition of the list price of the corresponding solid brass plate. Plates of benedict metal will be furnished at double the list price of the corresponding solid brass plate. Prices for plates of other metals will be quoted upon application. The standard package quantity and schedule will be the same as the standard plate. Plates of special metal may not be assorted with standard plates to make up the standard package quantity.

### PLATES WITH ROUND CORNERS AND EDGES, SOLID ONLY

Plates with round corners and round edges, when dimensions and spacings are standard, except those listed on another page, will be furnished at an addition to the list of solid plates of 15 cents for single plates and 5 cents for each additional section in gang plates. The standard package quantity and schedule will be the same as the standard plate. Single and gang plates with round corners and round edges to fit the same device may be assorted to make up the standard package quantity. No other assortment permitted.

### PLATES WITH ROUND CORNERS AND BEVELED EDGES, SOLID ONLY

Plates with round corners and beveled edges, when dimensions and spacings are standard, will be furnished at an addition to the list price of solid plates of 15 cents per plate. The standard package quantity and schedule will be the same as the standard plate. Single and gang plates with round corners and beveled edges to fit the same device may be assorted to make up the standard package quantity. No other assortment permitted.

### PLATES WITH SQUARE EDGES, SOLID ONLY

Plates with square corners and square edges, when dimensions and spacings are standard, will be furnished at the same price as regular solid plates and may be assorted with regular plates to make up the standard package quantity. The standard package quantity and schedule will be the same as the standard plate. For plates with round corners and square edges, the additional charge will be the same as given above for plates with round corners and beveled edges.

### PLATES OF SPECIAL DIMENSIONS AND SPACINGS, SOLID ONLY

Plates of special dimensions or spacings will be billed at 10 cents per square inch in addition to the list price of the corresponding standard solid plate. The standard package quantity will be ten plates of one style and size, Schedule H2.

### PLATES WITH RAISED EDGES, SOLID ONLY

Plates with raised edges are sometimes required when the outlet box projects beyond the surrounding surface. The requirements are so varied that stock prices cannot be given. Prices will be quoted on receipt of information in detail as to the Mfr. number or style of plate required and the amount of offset of the raised edge.

### PLATES TO BE FINISHED BY THE PURCHASER

Plates which are to be finished by the purchaser should be ordered polished, not lacquered, except when they are to be painted, in which case they should be ordered cut down, not polished or lacquered. Plates so furnished will be the same price, schedule and standard package as standard. They may be assorted with standard plates to make up the standard package quantity.

### PLATES TO FIT CONDULETS, SOLID ONLY

Flush plates to properly fit FD and FS Condulets should be solid, with round corners and beveled edges and of the following dimensions: single,  $4 \times 2\frac{1}{2}$  inches; two-gang,  $4 \times 4\frac{1}{2}$  inches; three-gang,  $4 \times 6\frac{1}{2}$  inches; four-gang,  $4 \times 7\frac{1}{2}$  inches.

When plates are specified conduit dimensions, the only extra charge will be 15 cents list per gang for the round corners under the conditions given above.

### FACE PLATE SCREWS

The number of face plate screws are included with each face plate. When bought separately they will be billed at 75 cents list per 100, standard package quantity 100, Schedule H2.

### ENGRAVINGS

Flush plates will be engraved with words or numbers at an addition to the list price of 10 cents per character, standard package quantity 100 characters. Wide and narrow block letters and figures  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ ,  $1$ ,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ ,  $2$ ,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ ,  $3$ ,  $3\frac{1}{4}$ ,  $3\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $4$ ,  $4\frac{1}{4}$ ,  $4\frac{1}{2}$ ,  $4\frac{3}{4}$ ,  $5$ ,  $5\frac{1}{4}$ ,  $5\frac{1}{2}$ ,  $5\frac{3}{4}$ ,  $6$ ,  $6\frac{1}{4}$ ,  $6\frac{1}{2}$ ,  $6\frac{3}{4}$ ,  $7$ ,  $7\frac{1}{4}$ ,  $7\frac{1}{2}$ ,  $7\frac{3}{4}$ ,  $8$ ,  $8\frac{1}{4}$ ,  $8\frac{1}{2}$ ,  $8\frac{3}{4}$ ,  $9$ ,  $9\frac{1}{4}$ ,  $9\frac{1}{2}$ ,  $9\frac{3}{4}$ ,  $10$  inch high, as selected, filled with black can be made. Schedule will be the same as the plate engraved. Engraved plates may be assorted with standard plates to make up the standard package quantity.

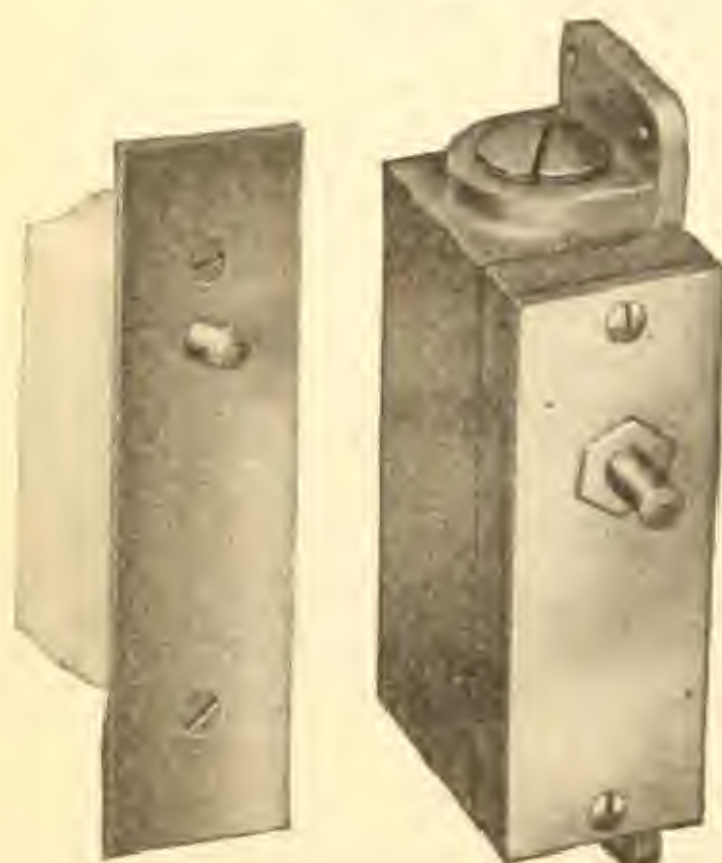


## PERKINS SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2



No. 2361



No. 2355

No. 2731



No. 2596



No. 2645

### COMBINATION WOOD MATS

For Flush Switches and Flush Receptacles

May be used either with or without outlet boxes.

Quartered Oak, Varnished and Rubbed

Trade No.	Mfrs. No.	No. of Switches	Car-ton	Dimen., Vert.	In. Hori.	Std. Pkg.	Wt., lbs. Std. Pkg.	Price Each
037219	2361	1	10	5 1/2	3 3/4	*	30	\$0.50
037220	2362	2	5	5 1/2	5 9/16	*	18	.70
037221	2363	3	5	5 1/2	7 3/8	*	15	.90
037222	2364	4	5	5 1/2	9 3/8	*	14	1.10
037223	2365	5	5	5 1/2	11	*	13	1.30
037224	2366	6	5	5 1/2	12 3/8	*	12	1.50
037225	2367	7	5	5 1/2	14 5/8	*	11	1.70
037226	2368	8	5	5 1/2	16 7/8	*	10	1.90

White Wood, Unfinished

Suitable for finishing to match any desired wood.

037227	2371	1	10	5 1/2	3 3/4	*	28	.50
037228	2372	2	5	5 1/2	5 9/16	*	14	.70
037229	2373	3	5	5 1/2	7 3/8	*	13	.90
037230	2374	4	5	5 1/2	9 3/8	*	12	1.10
037231	2375	5	5	5 1/2	11	*	11	1.30
037232	2376	6	5	5 1/2	12 3/8	*	10	1.50
037233	2377	7	5	5 1/2	14 5/8	*	9	1.70
037234	2378	8	5	5 1/2	16 7/8	*	8	1.90

### PERKINS SELF-RESTORING DOOR SWITCHES

Single-pole, 6 Amperes, 125 Volts—3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Car-ton	Std. Pkg.	Wt., lbs. Std. Pkg.	Price Each
044011	2355	Circuit closed when door is open	1	25	20	\$2.25
044012	2356	Circuit closed when door is closed	1	10	8	2.25

The brass plate measures 4 5/8 x 1 1/4 inches and the holes for supporting screws are spaced 3 3/4 inches on centers. The porcelain body is 3 3/8 inches long, 1 inch wide and 1 1/2 inches deep.

#### Water-tight

This switch is suitable for cold storage rooms, textile mills and for all marine purposes.

Switch measures 5 3/8 inches high, 2 1/2 inches wide and 1 1/4 inches deep.

195145	2750	Circuit closed when door is open	1	25	50	4.50
195146	2731	Circuit open when door is open	1	10	18	4.50

### PANEL BOARD SWITCHES

Polished Composition Cover

Trade No.	Mfrs. No.	CAP. AMPS. 125 Volts	250 Volts	Description	Car-ton	Std. Pkg.	Wt., lbs. Std. Pkg.	Price Each
19818	2596	10	10	D'ble-pole, rotary, ind.	10	50	30	\$1.00
87356	2645	10	10	D'ble-pole, push button	10	50	30	1.15
87357	2646	20	20	D'ble-pole, push button switch	10	50	32	1.45
87358	2647	10	10	D'ble-pole, push lock switch	10	50	30	1.45
87359	2648	20	20	D'ble-pole, lock switch	10	50	32	1.95
195147	2767	10	5	Three-point push switch	10	50	30	1.15
195148	2768	10	5	Three-point push, lock switch	10	50	30	1.45
Cover only, either style								30

\*A standard package of wood mats consists of a sufficient number assorted from all of these listed, to accommodate 100 switches.



## PERKINS SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE H2

### SINGLE-POLE SWITCHES

#### SMALL SIZE

5 Amperes, 125 Volts—3 Amperes, 250 Volts



No. 2000

Trade No.	Mfrs. No.	Description	Outside Diam. of Base Inches	Sup. Screws Centered Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038810	2000	Slotted.....	2	1 3/8	10	250	75	\$0.28
038811	*2220	Solid.....	2	1 3/8	10	250	75	.28
038812	2047	Slotted, indicating..	2	1 3/8	10	250	75	.32
038813	*2035	Solid, indicating....	2	1 3/8	10	250	75	.32

#### LARGE SIZE

5 Amperes, 125 Volts—3 Amperes, 250 Volts



No. 2001

Trade No.	Mfrs. No.	Description	Outside Diam. of Base Inches	Sup. Screws Centered Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038814	2170	Solid.....	2 1/4	1 1/2	10	100	40	.36
038815	2002	Slotted.....	2 1/4	1 1/2	10	100	40	.36
038816	2254	Solid, indicating ...	2 1/4	1 1/2	10	100	40	.40
038817	2255	Slotted, indicating..	2 1/4	1 1/2	10	100	40	.40

10 Amperes, 125 Volts—5 Amperes, 250 Volts



No. 2455

Trade No.	Mfrs. No.	Description	Outside Diam. of Base Inches	Sup. Screws Centered Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038818	2001	Slotted.....	2 7/8	1 3/4	10	100	50	.48
038819	†2221	Solid.....	2 7/8	1 3/4	10	100	50	.48
038820	2048	Slotted, indicating..	2 7/8	1 3/4	10	100	50	.54
038821	†2036	Solid, indicating....	2 7/8	1 3/4	10	100	50	.54

### THREE-POINT SWITCHES

3 Amperes, 125 Volts—1 Ampere, 250 Volts



No. 2175

Trade No.	Mfrs. No.	Description	Outside Diam. of Base Inches	Sup. Screws Centered Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
044052	*2455	Solid.....	2	1 3/8	10	100	37	.48
044053	2456	Slotted.....	2	1 3/8	10	100	37	.48

5 Amperes, 125 Volts—3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Outside Diam. of Base Inches	Sup. Screws Centered Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038822	2175	Solid.....	2 1/4	1 1/2	10	100	40	.56
038823	2027	Slotted.....	2 1/4	1 1/2	10	100	40	.56

10 Amperes, 125 Volts—5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Outside Diam. of Base Inches	Sup. Screws Centered Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038932	†2176	Solid.....	2 7/8	1 3/4	10	50	25	.76
038933	2030	Slotted.....	2 7/8	1 3/4	10	50	25	.76

### FOUR-POINT SWITCHES

Four-point switches are used in connection with two three-point switches where current is to be controlled from any one of more than two points. A four-point switch is installed between the three-point switches at each additional point.

Four-point switches can also be used individually as pole-changing switches



No. 2176

5 Amperes, 125 Volts—2 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Outside Diam. of Base Inches	Sup. Screws Centered Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038824	†2183	Solid.....	2 7/8	1 3/4	10	30	15	.86
038825	2033	Slotted.....	2 7/8	1 3/4	10	30	15	.86

\*These switches can also be furnished on a base measuring 1 3/4 inches in diameter, which is likewise the diameter of the cover.

†These switches can also be furnished on a base measuring 2 1/4 inches in diameter, which is likewise the diameter of the cover.

Any of the above switches can be converted into a lock switch by removing the handle and substituting No. 2384 lock attachment.



No. 2183



## PERKINS SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2

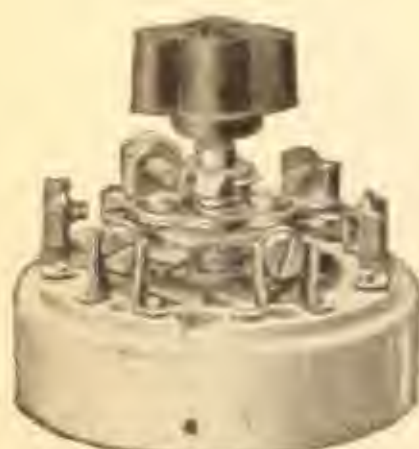
No. 2009



No. 2011



No. 2611



No. 2025



No. 2902

## DOUBLE-POLE SWITCHES

5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style	Outside Diam. Base Inches	Sup. Screws Centered Inches	Car-ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
037169	+2391	Solid	2	1 3/8	10	100	39	\$0.56
037170	2392	Slotted	2	1 3/8	10	100	39	.56
037171	+2393	Solid, indicating	2	1 3/8	10	100	39	.64
037172	2394	Slotted, indicating	2	1 3/8	10	100	39	.64

10 Amperes, 250 Volts

037173	*2009	Solid	2 7/8	1 3/4	10	100	50	.66
037174	2017	Slotted	2 7/8	1 3/4	10	100	50	.66
037175	*2038	Solid, indicating	2 7/8	1 3/4	10	100	50	.76
037176	2050	Slotted, indicating	2 7/8	1 3/4	10	100	50	.76

20 Amperes, 250 Volts

037177	2011	Solid	3	2 3/8	10	30	25	1.40
037178	2019	Slotted	3	2 3/8	10	30	25	1.40
037179	2040	Solid, indicating	3	2 3/8	10	30	25	1.50
037180	2052	Slotted, indicating	3	2 3/8	10	30	25	1.50

30 Amperes, 250 Volts

037181	2013	Solid	3 9/16	2 9/16	1	30	44	1.70
037182	2021	Slotted	3 9/16	2 9/16	1	30	44	1.70
037183	2042	Solid, indicating	3 9/16	2 9/16	1	30	44	1.80
037184	2054	Slotted, indicating	3 9/16	2 9/16	1	30	44	1.80

50 Amperes, 250 Volts

037185	2015	Solid	4 1/2	3 11/16	1	10	25	3.00
037186	2023	Slotted	4 1/2	3 11/16	1	10	25	3.00
037187	2044	Solid, indicating	4 1/2	3 11/16	1	10	25	3.10
037188	2056	Slotted, indicating	4 1/2	3 11/16	1	10	25	3.10

## DOUBLE-POLE, DOUBLE-THROW SWITCHES

10 Amperes, 250 Volts

105251	2611	Solid	2 11/16	2 1/8	10	10	7	2.40
105252	2612	Slotted	2 11/16	2 1/8	10	10	7	2.40
105253	2613	Solid, indicating	2 11/16	2 1/8	10	10	7	2.50
105254	2614	Slotted, indicating	2 11/16	2 1/8	10	10	7	2.50

## TRIPLE-POLE SWITCHES

10 Amperes, 250 Volts

037189	2025	Solid	2 11/16	2 1/8	10	10	12	1.90
92495	2633	Slotted	2 11/16	2 1/8	10	10	12	1.90
037190	2046	Solid, indicating	2 11/16	2 1/8	10	10	12	2.00
92494	2634	Slotted, indicating	2 11/16	2 1/8	10	10	12	2.00

All the above switches can be converted into lock switches by removing the handle and substituting No. 2384 lock attachment.

## TOGGLE SWITCHES

Single-pole, 5 Amperes, 125 Volts—3 Amperes, 250 Volts

105256	2902	Solid, ind.	2	1 3/8	10	100	30	.36
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\*These switches can also be furnished on a base measuring 1 3/4 inches in diameter, which is likewise the diameter of the cover.

\*These switches can also be furnished on a base measuring 2 1/4 inches in diameter, which is likewise the diameter of the cover.



## PERKINS SWITCHES

### NATIONAL ELECTRICAL CODE STANDARD

#### SWITCHES WITH METAL COVER AND PORCELAIN BASE FOR WOOD MOLDING



Nos. 2537 and  
2538

Also for 1/2 and 3/4-inch Oblong Pipe Taplets and (by Means of  
Covers 43SS, 44SS and 45SS) for 1/2, 3/4 and 1-inch,  
Types 1, 3, 4, and T. V. V. Fittings

Trade No.	Mfrs. No.	CAP. AMPS.		Description	Sched- ule	Car- ton	Std. Pkg.	Wt., Lbs.		Price Each
		125 Volts	250 Volts					Std.	Pkg.	
19807	2537	5	3	Single-pole	H2	10	100	42	80	.36
19808	2538	5	3	Single-pole, ind.	H2	10	100	42		.40
19810	2539	5	5	Double-pole	H2	10	100	42		.66
19811	2540	5	5	Double-pole, ind.	H2	10	100	42		.76

Height over cover is 1 5/8 inches, height over handle 2 inches.

Holes for supporting screws are spaced 2 5/8 inches on centers.



No. 2541

#### SWITCHES WITH BASE FOR 1/2-INCH OBOURD CONDULETS

Types L, LFB, and L45 V. V. Fittings

19812	2541	5	3	Single-pole	H2	10	100	50		.36
19813	2542	5	3	Single-pole, ind.	H2	10	100	50		.40

Height over cover is 1 1/2 inches, height over handle 2 1/4 inches.

#### SWITCHES WITH BASE FOR 1/2-INCH RECTANGULAR UNILETS



No. 2748

121300	2748	5	3	Single-pole	H2	10	100	50		.36
121301	2749	5	3	Single-pole, ind.	H2	10	100	50		.40

Height over cover is 1 1/2 inches, height over handle 2 1/4 inches.

#### SWITCHES WITH BASE FOR TYPE No. 500 ADAPTIBOXES

Types GN, HM, and W, (Forms 5 and 10) Octagonal  
Unilets and Size 10 Round Opening Pipe Taplets

121295	2690	5	3	Single-pole	H2	10	100	68		.36
121296	2691	5	3	Single-pole, ind.	H2	10	100	68		.40
121297	2692	10	5	Single-pole	H2	10	50	35		.48
121298	2693	10	5	Single-pole, ind.	H2	10	50	35		.54
121299	2694	10	5	Single-pole, pull.	H2	10	20	16	1.00	

Outside diameter of base is 2 1/8 inches. Height over cover is 1 3/8 inches, height over handle 2 inches.

Holes for supporting screws are spaced 2 5/8 inches on centers.



No. 2690

#### SWITCHES WITH BASE FOR TYPE Nos. 4400, 4500, 4600, AND 4700 ADAPTIBOXES

121302	2751	5	3	Single-pole	H2	10	100	50		.36
121303	2752	5	3	Single-pole, ind.	H2	10	100	50		.40
121304	2795	5	5	Double-pole	H2	10	100	50		.66
121305	2796	5	5	Double-pole, ind.	H2	10	100	50		.76

Height over cover is 1 3/8 inches, height over handle 2 inches.

All the above switches can be converted into lock switches  
by removing the handle and substituting No. 2384 universal lock  
attachment.



No. 2751



## PERKINS SWITCHES

## NATIONAL ELECTRICAL CODE STANDARD

## SCHEDULE H2

## TWO-CIRCUIT ELECTROLIER SWITCHES

10 AMPERES, 125 VOLTS—5 AMPERES, 250 VOLTS

Operating 1-2-1 &amp; 2-Off

Trade No.	Mfrs. No.	Style	Outside Diam. of Base Inches	Sup. Screws Cent. Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
037161	*2216	Solid	2 7/8	1 3/4	10	30	15	\$0.76
037162	2215	Slotted	2 7/8	1 3/4	10	30	15	.76
037163	*2188	Solid, indicating	2 7/8	1 3/4	10	30	15	.86
037164	2074	Slotted, indicating	2 7/8	1 3/4	10	30	15	.86



No. 2216



No. 2649



No. 2653



No. 2657



No. 2663



No. 2185

Operating 1-1 &amp; 2-1-Off

121238	*2649	Solid	2 7/8	1 3/4	10	30	15	.90
121239	2650	Slotted	2 7/8	1 3/4	10	30	15	.90
121240	*2651	Solid, indicating	2 7/8	1 3/4	10	30	15	1.00
121241	2652	Slotted, indicating	2 7/8	1 3/4	10	30	15	1.00

Operating 1-Off-2-Off

121242	*2653	Solid	2 7/8	1 3/4	10	30	15	.90
121243	2654	Slotted	2 7/8	1 3/4	10	30	15	.90
121244	*2655	Solid, indicating	2 7/8	1 3/4	10	30	15	1.00
121245	2656	Slotted, indicating	2 7/8	1 3/4	10	30	15	1.00

Operating 1-Off-1 &amp; 2-Off

121246	*2657	Solid	2 7/8	1 3/4	10	30	15	.90
121247	2658	Slotted	2 7/8	1 3/4	10	30	15	.90
121248	*2659	Solid, indicating	2 7/8	1 3/4	10	30	15	1.00
121249	2660	Slotted, indicating	2 7/8	1 3/4	10	30	15	1.00

Operating 1-1 &amp; 2-Off

121250	†*2661	Solid	2 1/4	*	10	30	15	.90
121251	†2662	Solid, indicating	2 1/4	*	10	30	15	1.00

\*There are three supporting screw holes equally spaced on a circle having a diameter of 1 3/4 inches. †These switches cannot be supplied on slotted bases.

## TWO-CIRCUIT ELECTROLIER OR TWO-SPEED FAN MOTOR SWITCHES

10 AMPERES, 125 VOLTS—5 AMPERES, 250 VOLTS

Operating 1-2-Off

121252	2663	Solid	2 1/4		10	30	15	.90
121253	2485	Solid, indicating	2 1/4		10	30	15	1.00

There are three supporting screw holes equally spaced on a circle having a diameter of 1 3/4 inches. These switches cannot be supplied on slotted bases.

## THREE-CIRCUIT ELECTROLIER SWITCHES

10 AMPERES, 125 VOLTS—5 AMPERES, 250 VOLTS

Operating 1-1 &amp; 2-1 &amp; 2 &amp; 3-Off

037165	*2185	Solid	2 7/8	1 3/4	10	30	15	.90
037166	2070	Slotted	2 7/8	1 3/4	10	30	15	.90
037167	*2187	Solid, indicating	2 7/8	1 3/4	10	30	15	1.00
037168	2072	Slotted, indicating	2 7/8	1 3/4	10	30	15	1.00

## THREE-CIRCUIT ELECTROLIER OR THREE-SPEED FAN MOTOR SWITCHES

10 AMPERES, 125 VOLTS—5 AMPERES, 250 VOLTS

Operating 1-2-3-Off

121254	*2664	Solid	2 7/8	1 3/4	10	30	15	.90
121255	2665	Slotted	2 7/8	1 3/4	10	30	15	.90
121256	*2666	Solid, indicating	2 7/8	1 3/4	10	30	15	1.00
121257	2667	Slotted, indicating	2 7/8	1 3/4	10	30	15	1.00

\*These switches can also be furnished on a base measuring 2 1/4 inches in diameter which is likewise the diameter of the cover.

Any of the above switches can be converted into a lock switch by removing the handle and substituting No. 2384 lock attachment.



## PERKINS SWITCHES

### NATIONAL ELECTRICAL CODE STANDARD



No. 2619

The advantage of the angle dial is that the switch can be installed in positions where the indications on the usual type of dial could not be seen.

### ANGLE DIAL HEATER SWITCHES

Porcelain Bases and Handles—Bakelite Insulation

#### SERIES PARALLEL, SINGLE-POLE

OPERATING HIGH, MEDIUM, LOW, OFF

15 Amperes, 125 Volts—10 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Schedule	Car-ton	Std. Pkg.	Wt., Lbs., Std. Pkg.	Price Each
92496	2619	Solid	H2	10	100	60	\$1.00
92497	2620	Slotted	H2	10	100	60	1.00

Outside diameter of base is  $2\frac{3}{8}$  inches. No. 2619 can be supplied on a base measuring  $2\frac{1}{4}$  inches in diameter, which is likewise the diameter of the cover.

Height over cover is  $1\frac{5}{8}$  inches, height over handle  $2\frac{5}{8}$  inches. Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.

20 Amperes, 125 Volts—15 Amperes, 250 Volts

123936	2679	Solid	H2	10	50	71	1.65
123937	2680	Slotted	H2	10	50	71	1.65

Outside diameter of base is 3 inches.

Height over cover is  $1\frac{5}{8}$  inches, height over handle  $2\frac{7}{8}$  inches on centers.

Holes for supporting screws are spaced  $2\frac{3}{8}$  inches on centers.

40 Amperes, 125 Volts—20 Ampere, 250 Volts

92498	2621	Solid	H2	1	50	71	2.00
92499	2622	Slotted	H2	1	50	71	2.00

Outside diameter of base is  $3\frac{9}{16}$  inches.

Height over cover is 2 inches, height over handle 3 inches.

Holes for supporting screws are spaced  $2\frac{3}{4}$  inches on centers.



No. 2621

### INDICATING HANDLE HEATER SWITCHES

Porcelain Bases and Handles—Bakelite Insulation

In these switches the indication is obtained by means of a pointed handle which points to markings on the switch cover. In as much as the point can be distinguished at a greater distance than ordinary indications can be read and the distance which the handle moves with each change in the position of the switch is 90 degrees, the operator very quickly learns to know the position of the switch at a glance.

#### SERIES PARALLEL, SINGLE-POLE

OPERATING HIGH, MEDIUM, LOW, OFF

15 Amperes, 125 Volts—10 Amperes, 250 Volts

123940	2635	Solid	H2	10	100	50	1.00
123941	2636	Slotted	H2	10	100	50	1.00

Outside diameter of base is  $2\frac{7}{8}$  inches. No. 2635 can be supplied on special order, on a base measuring  $2\frac{1}{4}$  inches in diameter, which is likewise the diameter of cover. Height over cover is  $1\frac{1}{2}$  inches, height over handle  $2\frac{3}{8}$  inches.

Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.

The standard finish of these switches is polished nickel which will be shipped when the finish is not specified. For special finishes see another page.



No. 2635



## BRYANT SWITCHES

## NATIONAL ELECTRICAL CODE STANDARD

In each of these switches, whether of the heater or range type, there is a sub-base to which the conductors are attached. The switch mechanism is mounted in a separate piece of porcelain and the connection, both the electrical and mechanical, of the switch to the sub-base is accomplished by means of screws which bind against the contacts of the switch and engage with threaded holes in terminal plates on the sub-base. In case of an accident, either mechanical or electrical, to the switch mechanism, a new one can be substituted without disturbing the conductors by simply removing the five contact screws. The advantage of this construction is the ease and convenience with which switch replacements can be made without breaking off one or more of the conductors in the process.



No. 2800



No. 2815



No. 2804



No. 2806



No. 2807

## HEATER SWITCHES

SERIES PARALLEL, DOUBLE POLE  
OPERATING HIGH, MEDIUM, LOW, OFF

20 Amperes, 125 Volts,—10 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Sched. ult.	Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Prov. Each
194978	2800	Switch mechanism with indicating handle, sub-base and cover	H2	1	10	12	\$1.60
194979	2815	Switch mechanism, with indicating handle and connecting screws	H2	1	10	7	1.00
194980	2804	Sub-base with terminals	H2	10	100	50	.20

Diameter of sub-base is 3 inches; of cover,  $2\frac{3}{4}$  inches. Height to top of cover,  $2\frac{1}{8}$  inches; to top of handle,  $2\frac{3}{8}$  inches. Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.

Switch covers are brass and the standard finish is gun metal, with indications plainly stamped. For special finishes add to list price \$0.10.

## RANGE SWITCHES

For use on electric ranges. The switch mechanisms described above are mounted on porcelain sub-bases incorporating connections for plug fuses, which are regularly double pole but will be furnished single pole on quantity orders.

The main feed connections are all located on the back of the sub-bases and the wires from the heater plates are led through holes in the porcelain to the terminal plates.

SERIES PARALLEL, DOUBLE POLE  
OPERATING HIGH, MEDIUM, LOW, OFF

Not Over 125 Volts

194984	2802	20-amp. switch mechanism, with handle and connecting screws	H2	1	10	7	1.00
194986	2806	Sub-base with fuse receptacles parallel to switch stem	H2	1	10	13	.60
194987	2807	Sub-base with fuse receptacles at right angles to switch stem	H2	1	10	13	.60



PERKINS SWITCHES  
NATIONAL ELECTRICAL CODE STANDARD

SWITCHES WITH PORCELAIN COVERS AND  
PORCELAIN HANDLES



No. 2601

Single-pole, 5 Amperes, 125 Volts—3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Sched-ule	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
92364	2601	Solid	H2	10	100	16	\$0.32
92365	2602	Slotted	H2	10	100	16	.32
92366	2603	Solid, indicating	H2	10	100	16	.36
92367	2604	Slotted, indicating	H2	10	100	16	.36

Outside diameter of base is 2 inches. Holes for supporting screws are spaced  $1\frac{3}{8}$  inches on centers.

Height over cover is  $1\frac{5}{8}$  inches, height over handle  $2\frac{7}{16}$  inches.

Single-pole, 10 Amperes, 125 Volts—5 Amperes, 250 Volts

037194	2141	Solid	H2	10	30	20	.56
108256	2753	Slotted	H2	10	30	20	.56
044048	2435	Solid, indicating	H2	10	30	20	.62
92385	2754	Slotted, indicating	H2	10	30	20	.62

Outside diameter of base is  $2\frac{1}{2}$  inches. Height over cover is  $1\frac{3}{4}$  inches, height over handle  $2\frac{1}{2}$  inches. Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.



No. 2753

Three-point, 5 Amperes, 125 Volts—3 Amperes, 250 Volts

92372	2605	Solid	H2	10	10	5	.52
92373	2606	Slotted	H2	10	10	5	.52

Outside diameter of base 2 inches. Height over cover is  $1\frac{5}{8}$  inches, height over handle  $2\frac{7}{16}$  inches. Holes for supporting screws are spaced  $1\frac{3}{8}$  inches on centers.

Three-point, 10 Amperes, 125 Volts—5 Amperes, 250 Volts

037195	2140	Solid	H2	10	10	9	.84
92386	2757	Slotted	H2	10	10	9	.84

Outside diameter of base is  $2\frac{1}{2}$  inches. Height over cover is  $1\frac{3}{4}$  inches, height over handle  $2\frac{1}{2}$  inches. Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.



No. 2605

Four-point, 5 Amperes, 125 Volts—2 Amperes, 250 Volts

037196	2142	Solid	H2	10	10	9	.94
92387	2758	Slotted	H2	10	10	9	.94

Outside diameter of base is  $2\frac{1}{2}$  inches. Height over cover is  $1\frac{3}{4}$  inches, height over handle  $2\frac{1}{2}$  inches. Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.

2-circuit Electroliner, 10 Amperes, 125 Volts—5 Amperes, 250 Volts

1st position—circuit 1 on. 2nd position—circuit 1 off and circuit 2 on.  
3rd position—circuits 1 and 2 on. 4th position—all circuits off.

037197	2264	Solid	H2	10	10	9	.84
92388	2759	Slotted	H2	10	10	9	.84
044049	2436	Solid, indicating	H2	10	10	9	.94
92389	2760	Slotted, indicating	H2	10	10	9	.94

3-circuit Electroliner, 10 Amperes, 125 Volts—5 Amperes, 250 Volts

1st position—circuit 1 on. 2nd position—circuits 1 and 2 on. 3rd position—circuits 1 and 2 and 3 on. 4th position—all circuits off.

037198	2263	Solid	H2	10	10	9	.98
92390	2761	Slotted	H2	10	10	9	.98
044050	2437	Solid, indicating	H2	10	10	9	1.08
92391	2762	Slotted, indicating	H2	10	10	9	1.08



Nos. 2140 and 2142



## PERKINS SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE H2

### EXPULSION TYPE SURFACE SWITCHES FOR INDUCTIVE LOADS AND ELECTRIC RAILWAY CIRCUITS Porcelain Handles



No. 2100

#### \*Three-point, 10 Amperes, 250 Volts—5 Amperes, 600 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., lbs.	Price Each
043964	2179	Solid	10	50	25	\$0.90
043965	2100	Slotted	10	50	25	.90
043966	2413	*Solid, indicating	10	50	25	1.00
043967	2414	*Slotted, indicating	10	50	25	1.00

Outside diameter of base is  $2\frac{7}{16}$  inches. Height over cover is  $1\frac{1}{2}$  inches, height over handle  $2\frac{3}{8}$  inches. Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.

#### \*Three-point, 20 Amperes, 250 Volts—10 Amperes, 600 Volts

043968	2397	Solid	10	50	45	1.70
043969	2398	Slotted	10	50	45	1.70
043970	2415	*Solid, indicating	10	50	45	1.80
043971	2416	*Slotted, indicating	10	50	45	1.80

Outside diameter of base is 3 inches. Height over cover is  $1\frac{9}{16}$  inches, height over handle  $2\frac{3}{4}$  inches. Holes for supporting screws are spaced  $2\frac{3}{16}$  inches on centers.

#### Four-point, 10 Amperes, 250 Volts—5 Amperes, 600 Volts

41856	2719	†Solid	10	20	12	1.00
41857	2720	†Slotted	10	20	12	1.00

Outside diameter of base is  $2\frac{7}{16}$  inches. Height over cover is  $1\frac{1}{2}$  inches, height over handle  $2\frac{1}{4}$  inches. Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.

#### Four-point, 20 Amperes, 250 Volts—10 Amperes, 600 Volts

41858	2721	†Solid	10	20	16	1.80
41859	2722	†Slotted	10	20	16	1.80

Outside diameter of base is 3 inches. Height over cover is  $1\frac{5}{8}$  inches, height over handle  $2\frac{5}{8}$  inches. Holes for supporting screws are spaced  $2\frac{3}{16}$  inches on centers.

#### Two-circuit, 5 Amperes, 250 Volts—3 Amperes, 600 Volts

These switches will break the circuit without the use of an additional switch and are adapted for use on electric cars as headlight switches and to control the interior lights.

043972	2181	Solid	10	50	25	.76
043973	2028	Slotted	10	50	25	.76
043974	2062	Solid, indicating	10	50	25	.86
043975	2068	Slotted, indicating	10	50	25	.86

Outside diameter of base is  $2\frac{7}{16}$  inches. Height over cover is  $1\frac{1}{2}$  inches, height over handle  $2\frac{3}{8}$  inches. Holes for supporting screws are spaced  $1\frac{3}{4}$  inches on centers.

#### Two-circuit, 20 Amperes, 250 Volts—10 Amperes, 600 Volts

043976	2409	Solid	10	50	45	1.70
043977	2410	Slotted	10	50	45	1.70
043978	2411	Solid, indicating	10	50	45	1.80
043979	2412	Slotted, indicating	10	50	45	1.80

Outside diameter of base is 3 inches. Height over cover is  $1\frac{9}{16}$  inches, height over handle  $2\frac{3}{4}$  inches. Holes for supporting screws are spaced  $2\frac{3}{16}$  inches on centers.

\*Three-point switches, when used on electric cars are used as transfer switches; as for instance, switching off a headlight and switching on a platform light. The indicating switches indicate on and off, having reference to one of the lamps controlled, it being understood that the other lamp is off when the one to which the indication refers is on.

Any of the above switches can be converted into a lock switch by removing the handle and substituting No. 2384 lock attachment.  
†Not National Electrical Code Standard.



Nos. 2722 and 2719



No. 2181



# PERKINS SWITCHES

## NATIONAL ELECTRICAL CODE STANDARD

### SCHEDULE H2

### EXPULSION TYPE SURFACE SWITCHES

### FOR INDUCTIVE LOADS AND ELECTRIC RAILWAY CIRCUITS



No. 2597

#### Triple-pole, 20 Amperes, 250 Volts—10 Amperes, 600 Volts

This switch is designed for use in controlling three-phase alternating current motors up to and including two horse power. The cast iron cover, which forms a part of the switch, is designed to be attached to conduit fittings. The handle points to the words *on* and *off*, which are cast in the cover, thus making it an indicating switch. The switch is absolutely dust-tight, therefore is particularly suitable for use in textile mills.

Trade No.	Mfrs. No.	Description	Std. Carton	Wt., Lbs.	Price Each
105255	2597	With cast iron cover.....	1	10 37	\$4.00

This switch without the cast iron cover will be furnished at a price of \$2.92 list; without the cast iron cover but with the inner brass cover at a price of \$3.00 list. For cast iron cover only, \$1.20 list.

The standard finish on the cast iron cover is black enamel, which will be furnished when the finish is not specified.



No. 2267

### SWITCHES WITH PORCELAIN COVERS AND HANDLES

#### 5 Amperes, 250 Volts—3 Amperes, 600 Volts

043942	2267	Single-pole.....	10	10	9	.74
043983	2450	Single-pole, indicating...	10	10	9	.84
043944	2272	Three-point.....	10	10	9	.98
043985	2452	Three-point, indicating...	10	10	9	1.08
043945	2273	Two-circuit.....	10	10	9	.84
043986	2453	Two-circuit, indicating...	10	10	9	.94

These switches cannot be supplied on slotted bases. Outside diameter of base is 2½ inches.

Height over cover is 1¾ inches, height over handle 2½ inches. Holes for supporting screws are spaced 1¾ inches on centers.



No. 2077

#### Fusible—An Open Link Fuse is Laid in a Groove Near the Edge of the Cover

#### 5 Amperes, 250 Volts—3 Amperes, 600 Volts

043987	2077	†Single-pole, indicating...	1	10	15	1.60
043988	2277	†Single-pole, indicating, brown porcelain.....	1	10	15	1.60

These switches cannot be supplied on solid bases. Outside diameter of base is 3⅜ inches. Height over cover is 1⅝ inches, height over handle 2⅞ inches. Holes for supporting screws are spaced 1⅝ inches on centers.

#### Brown Porcelain Cover, Handle and Base Connections For Enclosed Fuse

#### 5 Amperes, 250 Volts—3 Amperes, 600 Volts

043991	2315	Single-pole indicating...	1	25	45	1.50
043994	2316	3-ampere enclosed fuse for Schedule E2.....	25	100	5	.30

Base is 3⅞x3 inches. Height over cover is 1¾ inches, height over handle 2½ inches.

The above switch price does not include fuses. One fuse will be furnished with each switch, however, unless otherwise specified and charge made for it at the regular price.

†Not National Electrical Code Standard.



No. 2315



## PERKINS SWITCH ACCESSORIES

## SCHEDULE H2

## LOCK ATTACHMENTS AND KEYS FOR ROTARY SWITCHES

By substituting this lock attachment for the handle on any Perkins Rotary Switch, either surface or flush, lock switches are obtained. The lock attachment can be screwed on or removed, or the switch operated by means of the key.



No. 2384



No. 2126

Trade No.	Mfrs No.	Description	Std. Pkg.	Price Each
037216	*2384	Universal lock attachment, polished nickel	100	\$0.16
037213	*2126	Key for rotary lock switches	100	.06
037215	*2299	Key for all push lock switches	100	.15

No. 2299 key is furnished without charge with each push lock switch

## SWITCH COVERS

Trade No.	Description	Std. Pkg.	Price Each
121350	Metal cover with lining for any switch not larger than 10 ampere, 250 volt, double-pole.	50	\$0.08
121351	Allowance when switches are furnished without such covers and linings.		.03
121352	All larger metal covers.	50	.20
121353	Allowance when switches are furnished without such covers.		.08
121354	Porcelain covers, small size.	50	.10
121355	Allowance when switches are furnished without such covers.		.05
121356	Porcelain cover, large size.	50	.14
121357	Allowance when switches are furnished without such covers.		.07

The standard finish on all metal covers of surface switches, unless otherwise noted, is polished nickel which will be supplied when the finish is not specified. For covers in any other finish, add to list 10 cents.



No. 2382

## PORCELAIN SWITCH BLOCKS

For devices whose bases are  $2\frac{5}{8}$  inches maximum diameter to  $1\frac{7}{8}$  inches minimum diameter and having screw spacings of from  $\frac{3}{4}$  to  $1\frac{3}{8}$  inches.

Trade No.	Mfrs No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
037202	*2381	For surface work	10	250	50	\$0.06
037203	*2382	For concealed work	10	100	31	.06
037204	*2383	For molding work	10	100	26	.06
037205	*2439	For molding terminal	10	100	28	.06



No. 2357

For devices whose bases are  $2\frac{5}{8}$  inches maximum diameter to  $2\frac{1}{4}$  inches minimum diameter and having screw spacings of from  $\frac{3}{4}$  to  $1\frac{3}{4}$  inches.

037206	*2357	For surface work	10	100	40	.08
037207	*2252	For concealed work	10	100	37	.08
037208	*2222	For molding work	10	100	33	.08
037212	*2358	For molding terminal	10	100	39	.08



No. 2358

Nos. 2379 and 2380 for devices whose bases are  $3\frac{1}{2}$  inches maximum diameter to  $3\frac{1}{2}$  inches minimum diameter and having screw spacings of from  $1\frac{5}{8}$  to  $2\frac{1}{8}$  inches. No. 2262 for devices whose bases are  $3\frac{3}{4}$  inches maximum diameter to  $3\frac{1}{2}$  inches minimum diameter and having screw spacings of from  $2\frac{1}{2}$  to  $2\frac{3}{4}$  inches.

037209	*2379	For surface work	5	25	17	.15
037210	*2380	For concealed work	5	25	18	.15
037211	*2262	For molding work	5	25	20	.15

\*National Electrical Code Standard.



# PERKINS SWITCH ACCESSORIES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2

## HANDLES FOR ROTARY SWITCHES

All handles, lock attachments and switch stems are threaded alike, regardless of the size of the switch. The handles differ in external shape and size for purposes of leverage appropriate to the size of the switch.



No. 2777



No. 2778



No. 2779



No. 2780



No. 2781



No. 2782



No. 2783



No. 2784



No. 2785



No. 2775

Trade No.	Mfrs. No.	Description	SIZE OF SWITCH, AMPS.		Std. Pkg.	Price Each
			125 and 250 Volts	250 and 600 Volts		
195049	2777	Round, composition	3 and 5		100	\$0.06
195050	2778	Round, composition	10		100	.06
195051	2779	Flat, composition	20	Surface and all flush	100	.06
195052	2780	Flat, composition	30 and 50		100	.06
195053	2781	Round, white porcelain	3, 5 and 10	3 and 5	100	.06
195054	2782	Round, brown porcelain		3	100	.06
195055	2783	Flat, white porcelain	10 and 15		100	.06
195056	2784	Flat, White porcelain	20 and 30	10 and 20	100	.06
195057	2785	Flat, nickel-plated brass	All	All	100	.12

When switches are ordered without handles deduct from list 2 cents. When ordered with metal handles add to list, 6 cents.

## SECURITY RATCHET LOCK HANDLES

These handles may be substituted for the standard round or flat handle on any of the rotary switches. They are attached in the usual manner but cannot be removed except by the use of a tool. The ratchet principle is employed so that turning the handle backwards does no damage either to the handle or to the switch.

Trade No.	Mfrs. No.	Description	SIZE OF SWITCH, AMPS.		Std. Pkg.	Price Each
			125 and 250 Volts	250 and 600 Volts		
195058	*2775	Round, composition	All	All	100	\$0.10
195059	†2776	Round, white porcelain	3, 5 and 10	3 and 5	100	.20
195060	†2797	Flat, white porcelain	10 and 15		100	.20
195061	†2808	Flat, white porcelain	20 and 30	10 and 20	100	.20

†For switches fitted with these handles add to list 15 cents.

\*For switches fitted with this handle add to list 5 cents.



## PERKINS PENDENT SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2

## TYPE O PENDENT SWITCHES



No. 2440

## SINGLE-POLE

10 Amperes, 125 Volts—5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
071447	2440	Pendent cap .....	10	30	14	\$1.20
17612	2544	1/8-inch cap .....	10	30	14	1.20
071449	2464	3/8-inch cap .....	10	30	14	1.30
071448	2495	Pendent cap, indicating .....	10	30	14	1.30
17613	2545	1/8-inch cap, indicating .....	10	30	14	1.30
071450	2501	3/8-inch cap, indicating .....	10	30	14	1.40

## DOUBLE-POLE

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

071463	2421	Pendent cap .....	10	10	4	1.20
071464	2498	Pendent cap, indicating .....	10	10	4	1.30
071465	2469	3/8-inch cap .....	10	10	4	1.30
071466	2504	3/8-inch cap, indicating .....	10	10	4	1.40

## THREE-POINT

10 Amperes, 125 Volts—5 Amperes, 250 Volts

071451	2417	Pendent cap .....	10	10	4	1.20
071452	2465	3/8-inch cap .....	10	10	4	1.30

## FOUR-POINT

5 Amperes, 125 Volts—2 Amperes, 250 Volts

071453	2418	Pendent cap .....	10	10	4	1.20
071454	2466	3/8-inch cap .....	10	10	4	1.30

## ELECTROLIER

5 Amperes, 125 Volts—2 Amperes, 250 Volts

Two-circuit, Operating 1-2-1 & 2-off						
071455	2419	Pendent cap .....	10	10	4	1.20
071456	2496	Pendent cap, indicating .....	10	10	4	1.30
071457	2467	3/8-inch cap .....	10	10	4	1.30
071458	2502	3/8-inch cap, indicating .....	10	10	4	1.40
Three-circuit, Operating 1-1 & 2-1 & 2 & 3-off						
071459	2420	Pendent cap .....	10	10	4	1.20
071460	2497	Pendent cap, indicating .....	10	10	4	1.30
071461	2468	3/8-inch cap .....	10	10	4	1.30
071462	2503	3/8-inch cap, indicating .....	10	10	4	1.40

## FOR SPEED CONTROL OF FAN MOTORS AND OTHER SMALL MOTORS

10 Amperes, 125 Volts—5 Amperes, 250 Volts

Two-speed, Operating 1-2-off						
071467	2422	Pendent cap .....	10	10	5	1.20
071468	2499	Pendent cap, indicating .....	10	10	5	1.30
071469	2470	3/8-inch cap .....	10	10	5	1.30
071470	2505	3/8-inch cap, indicating .....	10	10	5	1.40
Three-speed, Operating 1-2-3-off						
071471	2423	Pendent cap .....	10	10	5	1.20
071472	2500	Pendent cap, indicating .....	10	10	5	1.30
071473	2471	3/8-inch cap .....	10	10	5	1.30
071474	2506	3/8-inch cap, indicating .....	10	10	5	1.40

The above switches can also be supplied to make the same connections as Nos. 2649, 2653, 2657 and 2661 listed on other pages.

The standard finish of pendent switches is brush brass, which will be supplied on all orders where no finish is specified. Switches will be finished in polished brass at same price. For switches in any other finish add 10 per cent to list price.



## PERKINS PENDENT SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2

### TYPE T PENDENT SWITCHES



No. 2572

Single-pole, 6 Amperes, 125 Volts—3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
17609	2572	Pendant cap	10	100	27	\$0.50
17610	2573	1/8-inch cap	10	100	28	.50
17611	2574	3/8-inch cap	10	100	29	.60

Single-pole, Momentary Contact, Normally Open—6 Amperes, 125 Volts

17670	2786	Pendant cap	10	30	7	.70
17671	2787	1/8-inch cap	10	30	7	.70
17672	2788	3/8-inch cap	10	30	7	.80

Single-pole, Momentary Contact, Normally Closed—6 Amperes, 125 Volts

17673	2789	Pendant cap	10	30	7	.70
17674	2790	1/8-inch cap	10	30	7	.70
17675	2791	3/8-inch cap	10	30	7	.80

Single-pole, 6 Amperes, 125 Volts—3 Amperes, 250 Volts

071441	2370	Pendant cap	10	100	36	.50
071442	2250	1/8-inch cap	10	100	38	.50
071443	2270	3/8-inch cap	10	100	40	.60

Single-pole, 10 Amperes, 125 Volts—5 Amperes, 250 Volts

071444	2359	Pendant cap	10	100	46	.80
071445	2353	1/8-inch cap	10	100	48	.80
071446	2354	3/8-inch cap	10	100	50	.90



No. 2370

### STRAIGHT-THROUGH SWITCHES

Single-pole, 6 Amperes, 125 Volts—3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
17668	2592	Brass shell	10	50	5	\$0.60

Momentary Contact, Normally Open—6 Amperes, 125 Volts

17677	2792	Single-pole	10	20	5	.80
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Momentary Contact, Normally —Closed 6 Amperes, 125 Volts

17678	2793	Single-pole	10	20	12	.80
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No. 2592

### TYPE O SWITCHES

Double-pole, 10 Amperes, 125 Volts—5 Amperes, 250 Volts

071199	2454	Double-pole	10	30	18	1.20
071200	2430	Double-pole, ind.	10	30	18	1.30

### SERIES MULTIPLE HEAT REGULATING, SINGLE-POLE

Operating High, Medium, Low, Off

5 Amperes, 125 Volts—2 Amperes, 250 Volts

17669	2678	Three-heat switch, indicating	10	10	12	1.30
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Straight-through and Type O switches can also be supplied to make the same connections as Nos. 2176, 2183, 2216, 2649, 2653, 2657, 2185, 2664 and listed on other pages.

The standard finish on all the above switches is brush brass, which will be supplied on all orders where no finish is specified. Switches will be finished in polished brass, when specified, at the same price. For switches in any other finish, add 10 cents to the list price.



No. 2454



## PERKINS PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE H2

## CEILING PULL SWITCHES

Trade No.	Mfrs. No.	Description	CAP. AMP.			Std. Pkg.	Wt., Lbs.	Price Each
			125 Volts	250 Volts	Car- ton			
065497	2387	Single-pole, solid	10	5	10	30	20	\$1.00
065498	2309	Single-pole, slotted	10	5	10	30	20	1.00
065499	2388	3-point, solid	10	5	10	10	8	1.18
065500	2310	3-point, slotted	10	5	10	10	8	1.18
065501	2389	4-point, solid	5	2	1	10	8	1.18
065502	2311	4-point, slotted	5	2	1	10	8	1.18
065503*	2390	2-circuit electrolier, solid	10	5	1	10	8	1.18
065504*	2312	2-circuit electrolier, slotted	10	5	1	10	8	1.18
065505†	2395	3-circuit electrolier, solid	10	5	1	10	8	1.18
065506†	2313	3-circuit electrolier, slotted	10	5	1	10	8	1.18
065507	2396	Double-pole, solid	10	10	10	10	8	1.18
065508	2314	Double-pole, slotted	10	10	10	10	8	1.18

With Base for 3 1/4 and 4-inch Outlet Boxes

17658	2769	Single-pole	10	5	1	10	10	1.25
17659	2770	Double-pole	10	10	1	10	11	1.43

Outside diameter of base is 4 5/8 inches.

There are two pairs of supporting screw holes spaced respectively 2 3/4 inches and 3 1/2 inches on centers.



No. 2387



No. 2694



No. 2769



No. 2546

## WALL PULL SWITCHES

17646	2546	Single-pole, solid	10	5	10	30	20	1.00
17647	2547	Single-pole, slotted	10	5	10	30	20	1.00
17648	2548	3-point, solid	10	5	10	10	8	1.18
17649	2549	3-point, slotted	10	5	10	10	8	1.18
17650	2550	4-point, solid	5	2	1	10	8	1.18
17651	2560	4-point, slotted	5	2	1	10	8	1.18
17652*	2561	2-circuit electrolier, solid	10	5	1	10	8	1.18
17653*	2562	2-circuit electrolier, slotted	10	5	1	10	8	1.18
17654†	2563	3-circuit electrolier, solid	10	5	1	10	8	1.18
17655†	2564	3-circuit electrolier, slotted	10	5	1	10	8	1.18
17656	2565	Double-pole, solid	10	10	10	10	8	1.18
17657	2566	Double-pole, slotted	10	10	10	10	8	1.18

Outside diameter of base is 2 9/16 inches. Holes for supporting screws are spaced 1 3/4 inches on centers. Height over cover is 2 1/4 inches.

Each switch supplied with 10 feet of best quality linen cord. Extra cord, 2 cents list per foot. Cord in bulk per foot 2 cents list, Schedule H2, standard package quantity 1000 feet. Extra composition balls each, 6 cents list, Schedule H2, standard package quantity 250.

The standard finish of pull switches is polished nickel which will be shipped when the finish is not specified. For special finishes see another page.

\*The operation of this switch is 1-2-1 &amp; 2-off.

†The operation of this switch is 1-1 &amp; 2-1 &amp; 2 &amp; 3-off.



# PERKINS PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE H2

## TYPE O PULL SWITCHES



No. 2515



No. 2473



No. 2507

### With 1/8-inch Cap

Trade No.	Mfrs. No.	Description	AMPERES		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
			125 Volts	250 Volts				
078545	2515	Single-pole.....	10	5	10	30	18	\$1.30

### With 3/8-inch Cap

065509	2473	Single-pole.....	10	5	10	30	18	1.30
065510	2474	Three-point.....	10	5	10	10	5	1.30
065511	2475	Four-point.....	5	2	10	10	5	1.30
065512	2476	2-circuit electrolier....	5	2	10	10	5	1.30

1st position—circuit 1 on. 2nd position—circuit 1 off and circuit 2 on,  
3rd position—circuits 1 and 2 on. 4th position—all circuits off.

065513	2477	3-circuit electrolier....	5	2	10	10	5	1.30
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1st position—circuit 1 on. 2nd position—circuits 1 and 2 on. 3rd po-  
sition—circuits 1 and 2 and 3 on. 4th position—all circuits off.

065514	2478	Double-pole.....	10	5	10	10	5	1.30
065515	2479	2-speed fan motor....	10	5	10	10	5	1.30
065516	2480	3-speed fan motor....	10	5	10	10	5	1.30

### With Fixture Hickey Cap

078537	2507	Single-pole.....	10	5	10	30	19	1.30
078538	2508	Three-point.....	10	5	10	10	6	1.30
078539	2509	Four-point.....	5	2	10	10	6	1.30
078540	2510	2-circuit electrolier....	5	2	10	10	6	1.30

1st position—circuit 1 on. 2nd position—circuit 1 off and circuit 2 on.  
3rd position—circuits 1 and 2 on. 4th position—all circuits off.

078541	2511	3-circuit electrolier....	5	2	10	10	6	1.30
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1st position—circuit 1 on. 2nd position—circuits 1 and 2 on. 3rd po-  
sition—1 and 2 and 3 on. 4th position—all circuits off.

078542	2512	Double-pole.....	10	5	10	10	6	1.30
078543	2513	2-speed fan motor....	10	5	10	10	6	1.30
078544	2514	3-speed fan motor....	10	5	10	10	6	1.30

Each switch supplied with 10 feet of best quality linen cord. Extra  
cord 1 cent list per foot.

These switches can also be supplied to make the same connections as  
Nos. 2626, 2628, 2629 and 2630 listed on another page.

The standard finish is brush or old brass, which will be supplied when  
the finish is not specified. For switches in any other finish, add to the list  
price 10 cents.



## PERKINS SWITCHES

## SCHEDULE H2

PUSH BUTTON SWITCHES FOR AUTOMOBILES AND  
BATTERY CIRCUITS

## Style A with Flush Plate, Single-pole

Trade No.	Mfrs. No.	Style	Size Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
121311	2441	Single	2 $\frac{3}{8}$ x $\frac{5}{8}$	10	100*	20	\$0.50
121312	2442	2-gang	2 $\frac{3}{8}$ x1 $\frac{3}{4}$	5	50*	18	1.00
121313	2443	3-gang	2 $\frac{3}{8}$ x2 $\frac{1}{2}$	1	30*	14	1.50
121314	2444	4-gang	2 $\frac{3}{8}$ x3 $\frac{1}{4}$	1	25*	19	2.00



No. 2813

## Automobile Door Switch

Circuit closed when door is open.

121334	2813			10	50*	11	.75
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Holes for supporting screws are spaced 1 $\frac{5}{8}$  inches on centers.When mounted in gangs switches are spaced  $\frac{3}{4}$ -inch on centers.

Switch cups are 1 inch deep.

With No. 2813, a brass strike plate is furnished.



No. 2441



Strike Plate

## \*Style B with Flush Plate, Single-pole

Two mounting screws  $\frac{1}{2}$ -inch No. 4 flat head brass wood screws are furnished with each switch.

121315	2551	Single	2 $\frac{1}{8}$ x1	10	100†	18	0.65
121316	2552	2-gang	2 $\frac{1}{8}$ x1 $\frac{3}{4}$	5	50†	16	1.30
121317	2553	3-gang	2 $\frac{1}{8}$ x2 $\frac{3}{4}$	1	30†	15	1.95
121318	2554	4-gang	2 $\frac{1}{8}$ x3 $\frac{3}{4}$	1	25†	18	2.60



No. 2551



## \*Style B with Flush Plate, Three-point

121319	2575	Single	2 $\frac{1}{8}$ x1	10	100†	19	.75
121320	2576	2-gang	2 $\frac{1}{8}$ x1 $\frac{3}{4}$	5	50†	17	1.50
121321	2577	3-gang	2 $\frac{1}{8}$ x2 $\frac{3}{4}$	1	30†	16	2.25
121322	2578	4-gang	2 $\frac{1}{8}$ x3 $\frac{3}{4}$	1	25†	19	3.00

## †Style B with Sunken Plate and Flush Buttons, Single-pole

121323	2488	Single	2 $\frac{1}{8}$ x1	10	100†	20	.75
121324	2516	2-gang	2 $\frac{1}{8}$ x1 $\frac{3}{4}$	5	50†	18	1.50
121325	2517	3-gang	2 $\frac{1}{8}$ x2 $\frac{3}{4}$	1	30†	14	2.25
121326	2518	4-gang	2 $\frac{1}{8}$ x3 $\frac{3}{4}$	1	25†	19	3.00



No. 2576

## †Style B with Sunken Plate and Flush Buttons, Three-point

121327	2583	Single	2 $\frac{1}{8}$ x1	10	100†	20	.85
121328	2584	2-gang	2 $\frac{1}{8}$ x1 $\frac{3}{4}$	5	50†	18	1.70
121329	2585	3-gang	2 $\frac{1}{8}$ x2 $\frac{3}{4}$	1	30†	14	2.55
121330	2586	4-gang	2 $\frac{1}{8}$ x3 $\frac{3}{4}$	1	25†	19	3.40

When mounted in gangs, switches are spaced  $\frac{5}{8}$ -inch on centers.\*Switch cups are  $\frac{5}{8}$ -inch deep.†Switch cups are 1 $\frac{5}{8}$  inches deep.

No. 2488

## ROTARY SURFACE SWITCHES FOR AUTOMOBILES

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
121331	2463	Indicating	10	100	35	\$0.80

This switch operates as follows: First position, rear and side lights on; second position, rear and head lights on, side lights off; third position: rear, side and headlights on; fourth position, all lights off.

Cover entirely conceals porcelain base.

Outside diameter of base is 1 $\frac{5}{8}$  inches.Holes for supporting screws are spaced 1 $\frac{3}{8}$  inches on centers.

\*The equivalent of 200 switches, assorted single and gang, is also a standard package.

†The equivalent of 100 switches, assorted single and gang, is also a standard package.

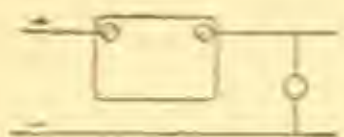


No. 2463



# BRYANT WIRING DIAGRAMS

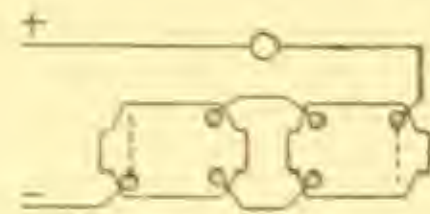
## WIRING DIAGRAMS FOR FLUSH SWITCHES



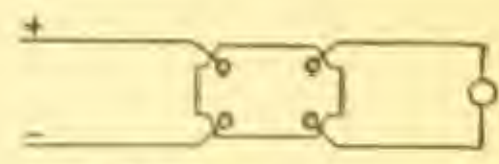
SINGLE POLE PUSH BUTTON  
TYPES "B", "P" AND "Y"



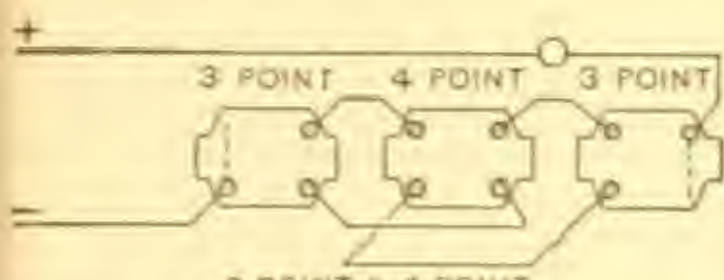
SINGLE POLE TYPES  
"O" AND "R"



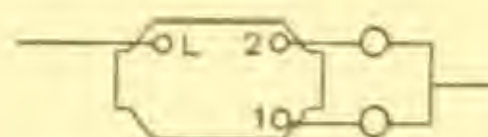
THREE POINT  
TYPES "B", "P", "Y", "O" AND "R"



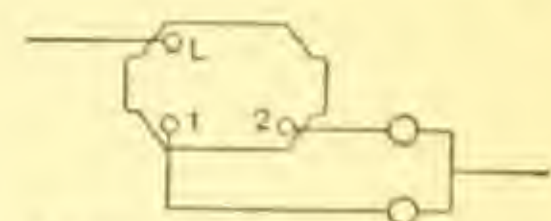
DOUBLE POLE  
TYPES "B", "P", "O" AND "R"



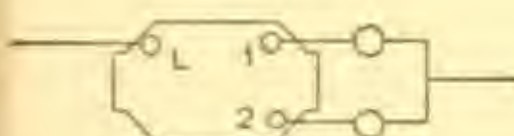
3 POINT & 4 POINT  
TYPES "B", "P" AND "O"



2 CIRCUIT ELECTROLIER  
CONNECTIONS: 1, 2, 1 & 2, OFF  
Cat. 2460, 2492, 2625 and 2224



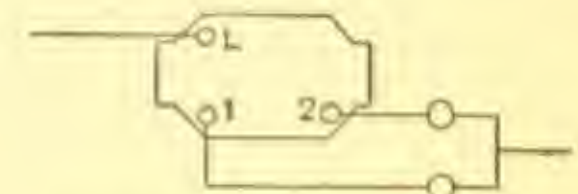
2 CIRCUIT ELECTROLIER  
CONNECTIONS: 1, 1 & 2, 1, OFF  
Cat. 2626



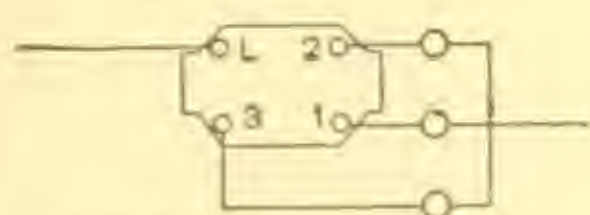
2 CIRCUIT ELECTROLIER  
CONNECTIONS: 1, OFF, 2, OFF  
Cat. 2628



2 CIRCUIT ELECTROLIER  
CONNECTIONS: 1, OFF,  
1 & 2, OFF  
Cat. 2629



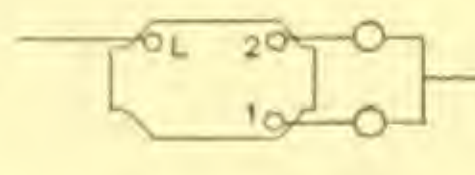
2 CIRCUIT ELECTROLIER  
CONNECTIONS: 1, 1 & 2, OFF  
Cat. 2630



3 CIRCUIT ELECTROLIER  
CONNECTIONS: 1, 1 & 2, 1 2 & 3, OFF  
Cat. 2461, 2493 and 2210



3 CIRCUIT ELECTROLIER  
CONNECTIONS: 1, 1 & 2  
1 & 2 & 3, OFF  
Cat. 2627



2 SPEED FAN MOTOR  
CONNECTIONS: 1, 2, OFF  
Cat. 2631



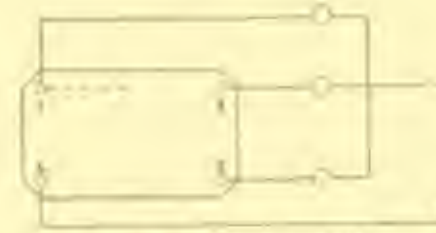
3 SPEED FAN MOTOR  
CONNECTIONS: 1, 2,  
3, OFF  
Cat. 2632



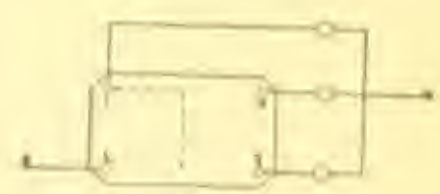
DUPLEX TYPE "D" CAT. 2629  
CONNECTED AS TWO  
SINGLE-POLE SWITCHES  
WITH COMMON FEED



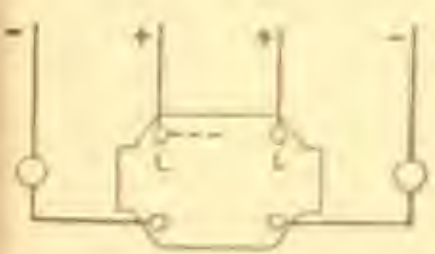
DUPLEX TYPE "D"  
CAT. 2639  
CONNECTED AS A  
TWO CIRCUIT ELECTROLIER



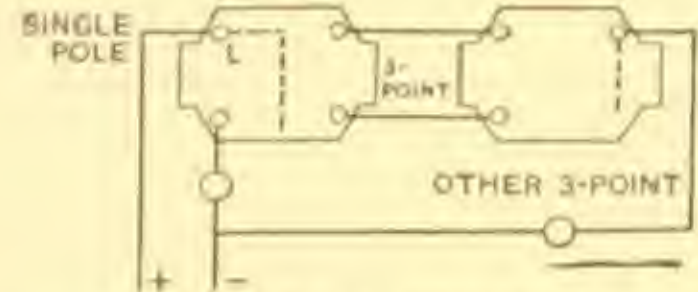
DUPLEX TYPE "D"  
Cat. 2640



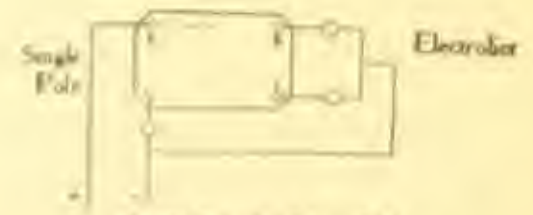
DUPLEX TYPE "D"  
Cat. 2745



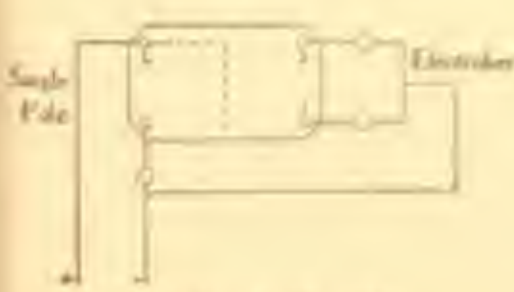
DUPLEX TYPE "D" CAT. 2709  
TWO SINGLE-POLE SWITCHES  
WITH SEPARATE FEEDS



DUPLEX TYPE "D" CAT. 2710  
ONE SINGLE-POLE AND ONE THREE POINT SWITCH  
WITH COMMON FEED



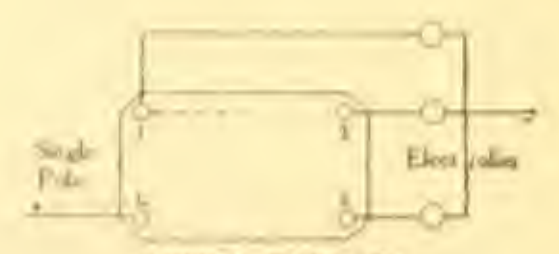
DUPLEX TYPE "D"  
CAT. 2738, 2741, 2742  
AND 2743



DUPLEX TYPE "D"  
Cat. 2748



DUPLEX TYPE "D" CAT. 2741

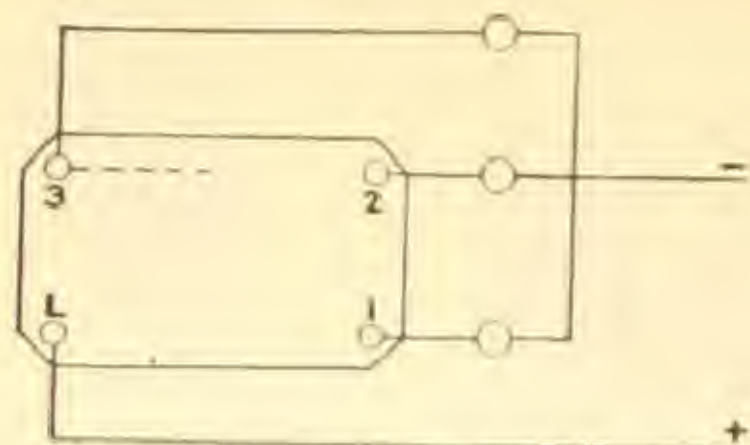


DUPLEX TYPE "D"  
Cat. 2744

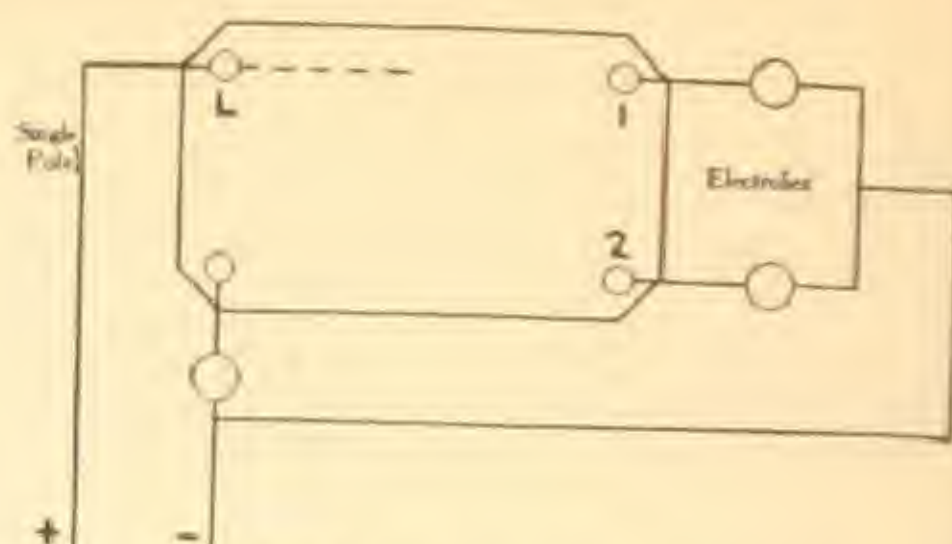
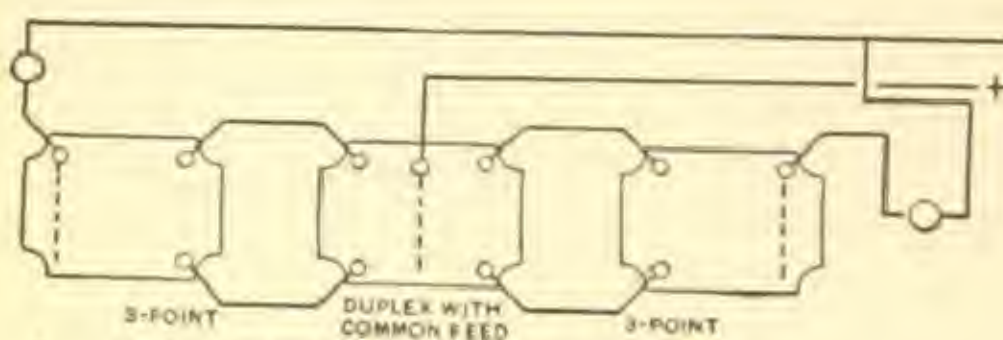


## BRYANT WIRING DIAGRAMS

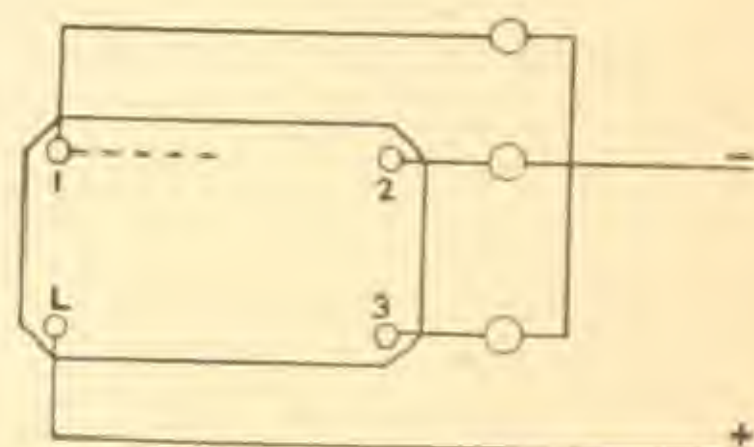
## WIRING DIAGRAMS FOR FLUSH SWITCHES



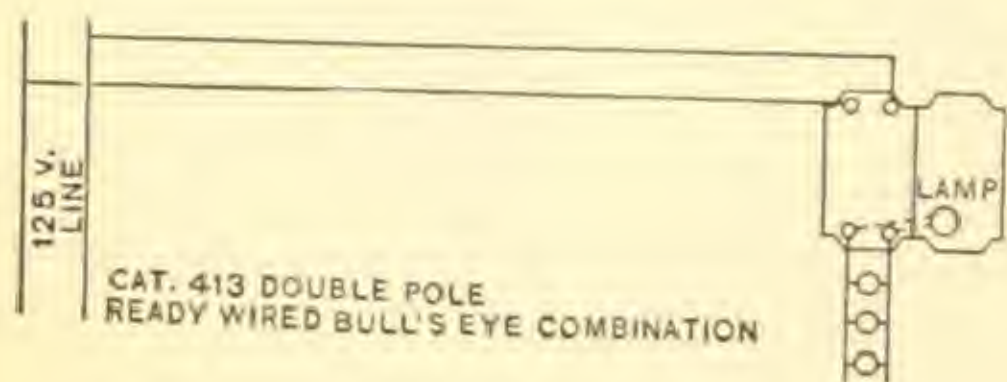
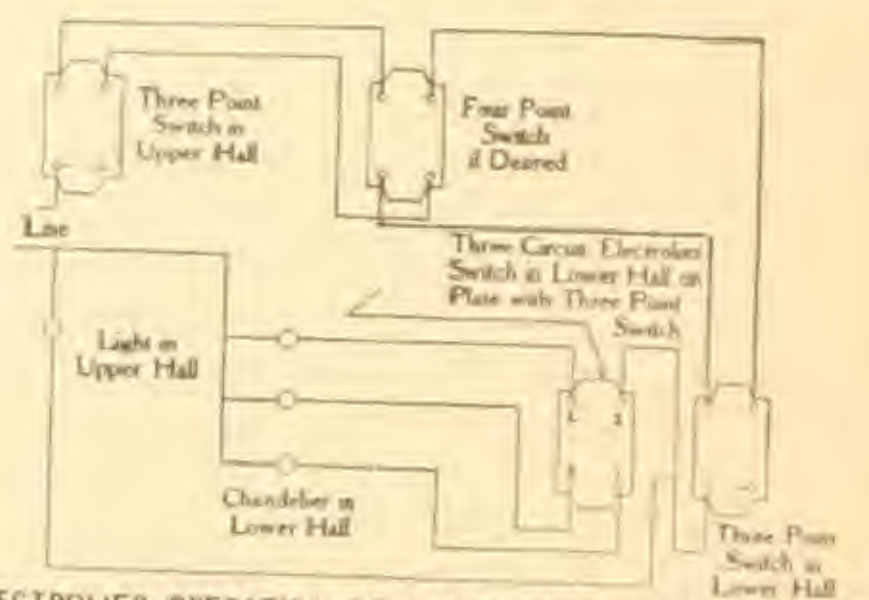
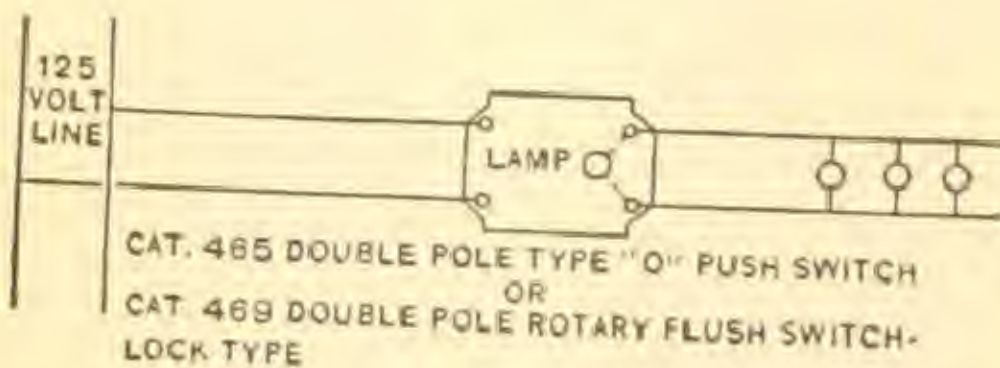
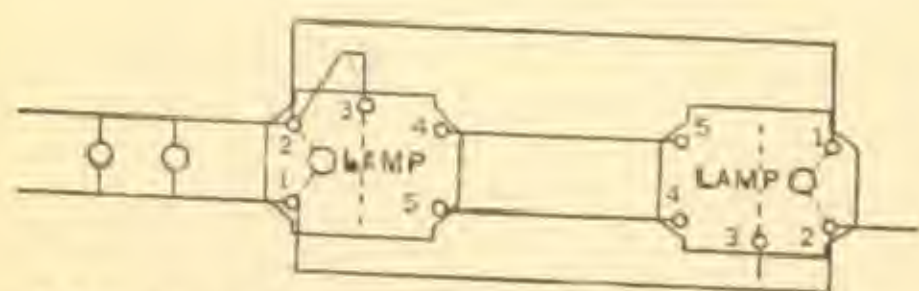
DUPLEX TYPE "D" CAT. 2746

DUPLEX TYPE "D" CAT. 2739  
ONE SINGLE POLE AND ONE 2 CIRCUIT  
ELECTROLUX SWITCH WITH COMMON FEED

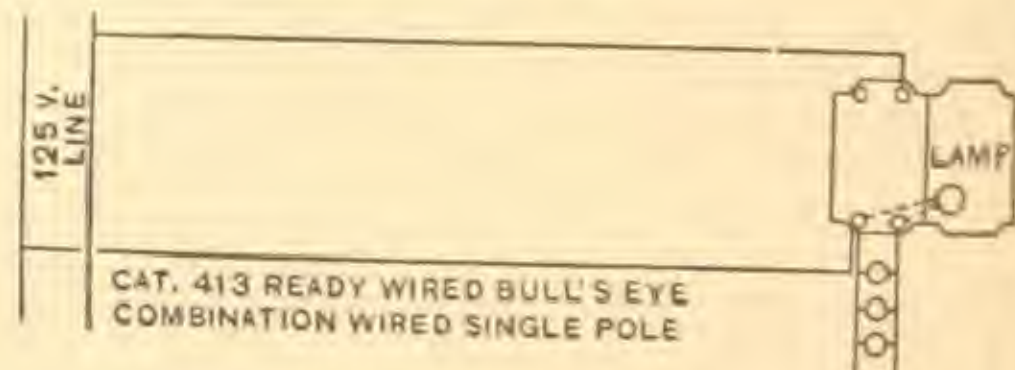
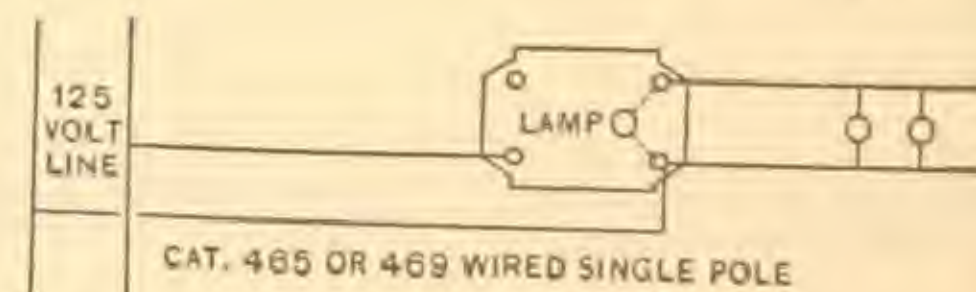
DUPLEX TYPE "D" CAT. 2737



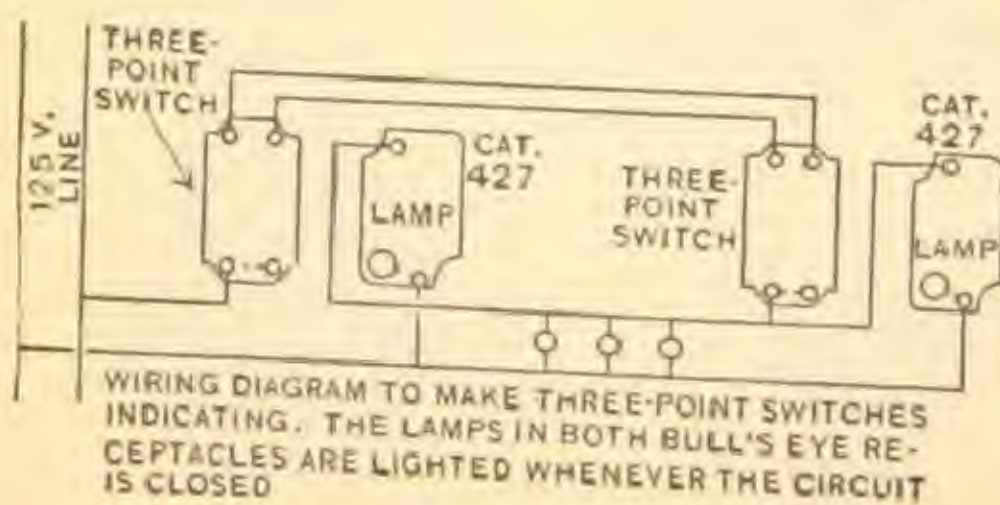
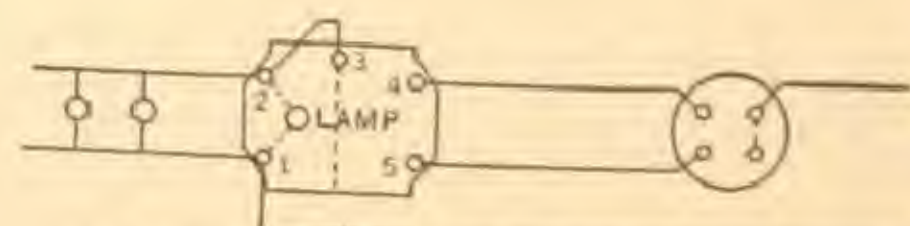
DUPLEX TYPE "D" CAT. 2747

CAT. 413 DOUBLE POLE  
READY WIRED BULL'S EYE COMBINATIONELECTROLUX OPERATION OF LIGHTS THAT ARE CONTROLLED  
FROM TWO OR MORE POINTSCAT. 465 DOUBLE POLE TYPE "Q" PUSH SWITCH  
OR  
CAT. 469 DOUBLE POLE ROTARY FLUSH SWITCH-  
LOCK TYPE

2 CAT. 495 THREE POINT TYPE "Q" PUSH SWITCHES

CAT. 413 READY WIRED BULL'S EYE  
COMBINATION WIRED SINGLE POLE

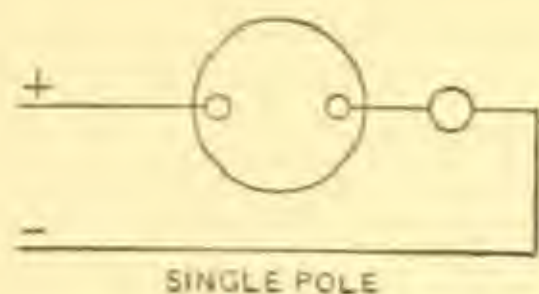
CAT. 465 OR 469 WIRED SINGLE POLE

WIRING DIAGRAM TO MAKE THREE-POINT SWITCHES  
INDICATING. THE LAMPS IN BOTH BULL'S EYE RE-  
CEPTACLES ARE LIGHTED WHENEVER THE CIRCUIT  
IS CLOSED1 CAT. 495 THREE-POINT TYPE "Q" PUSH SWITCH AND  
1 REGULAR THREE-POINT SWITCH

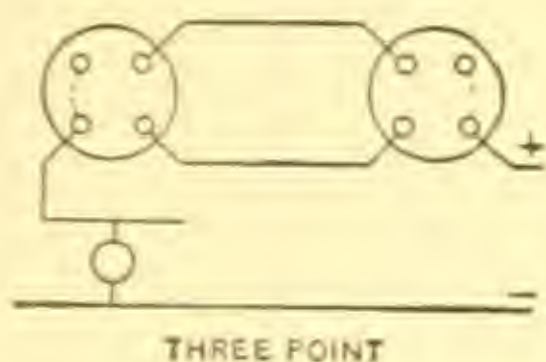


# BRYANT WIRING DIAGRAMS

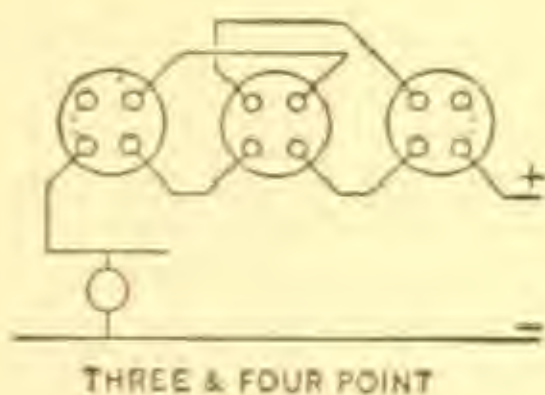
## WIRING DIAGRAMS FOR SURFACE SWITCHES



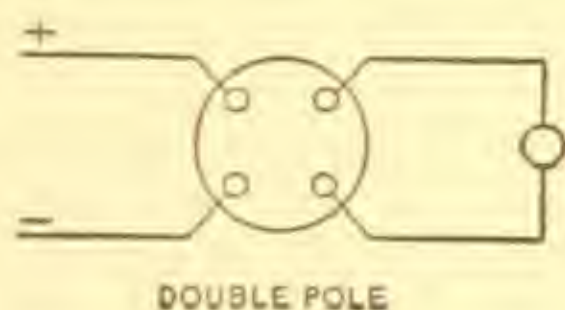
SINGLE POLE



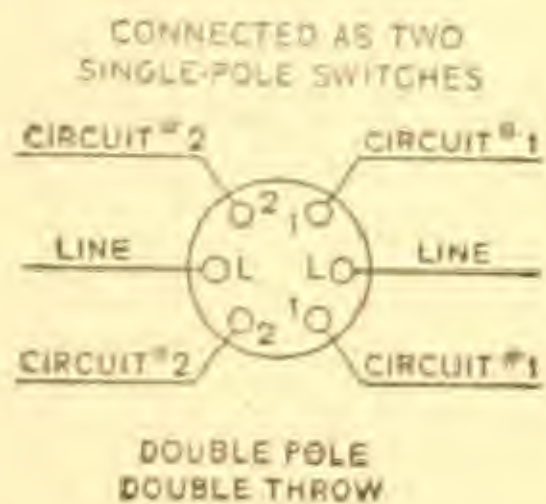
THREE POINT



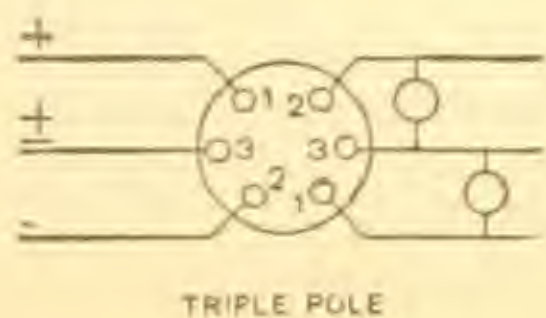
THREE & FOUR POINT



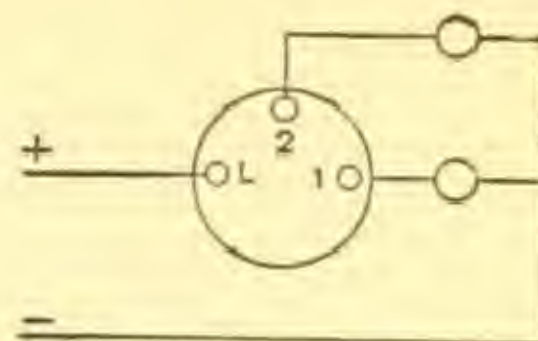
DOUBLE POLE



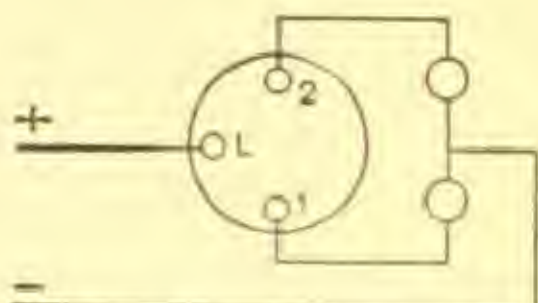
DOUBLE POLE  
DOUBLE THROW



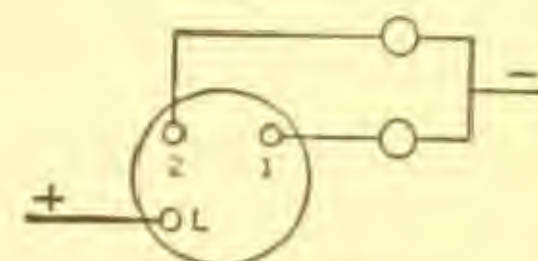
TRIPLE POLE



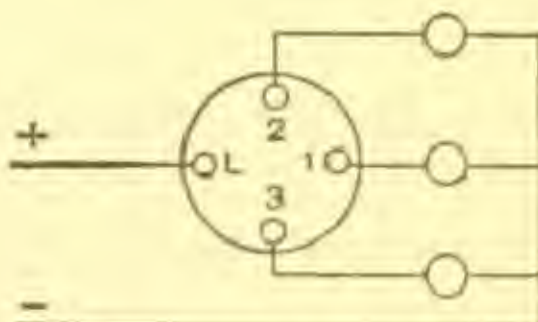
2 CIRCUIT ELECTROLIER  
CONNECTIONS  
1, 2, 1 & 2, OFF.



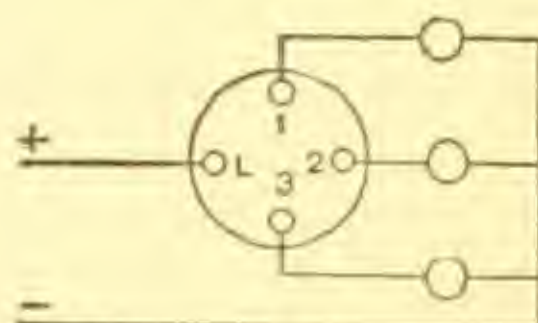
2 CIRCUIT ELECTROLIER  
CONNECTIONS  
1, OFF, 2, OFF.  
1, 1 & 2, 1, OFF.



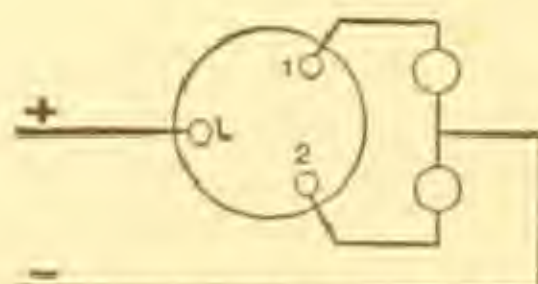
2 CIR. ELECTROLIER  
CONNECTIONS:  
1, OFF, 1 & 2, OFF



3 CIRCUIT ELECTROLIER  
CONNECTIONS  
1, 1 & 2, 1 & 2 & 3, OFF.



ELECTROLIER & 3 SPEED  
FAN MOTOR, CONNECTIONS  
1, 2, 3, OFF.

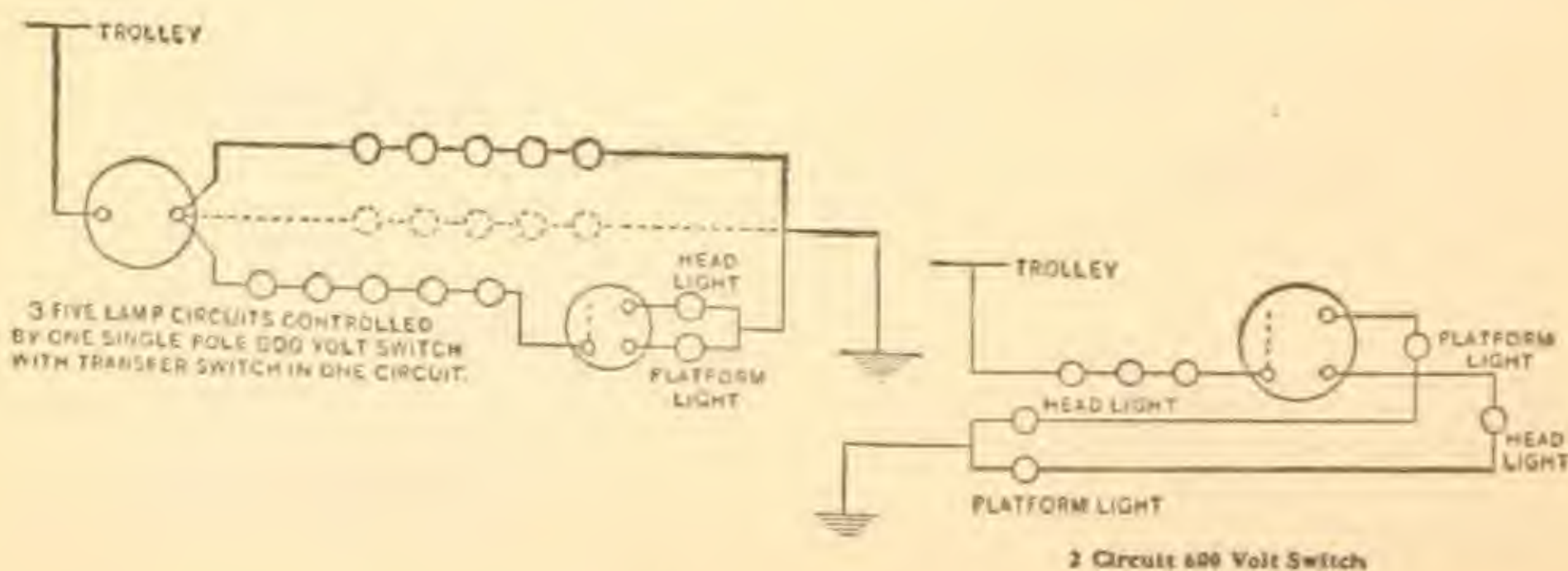
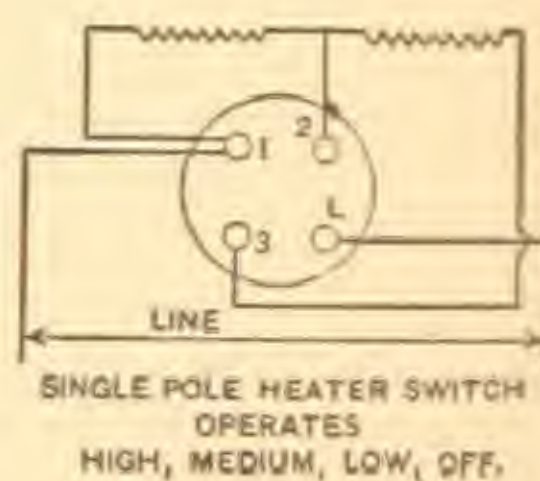
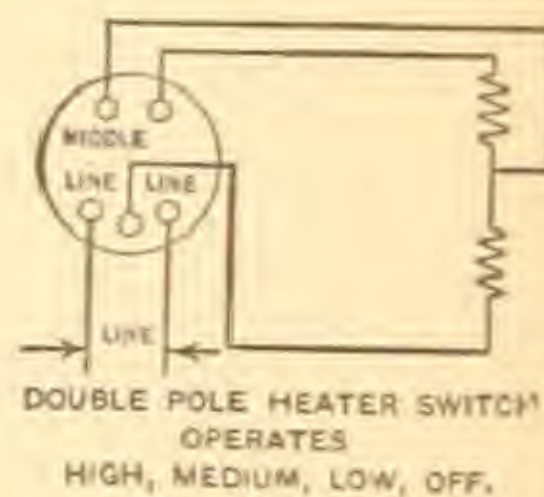
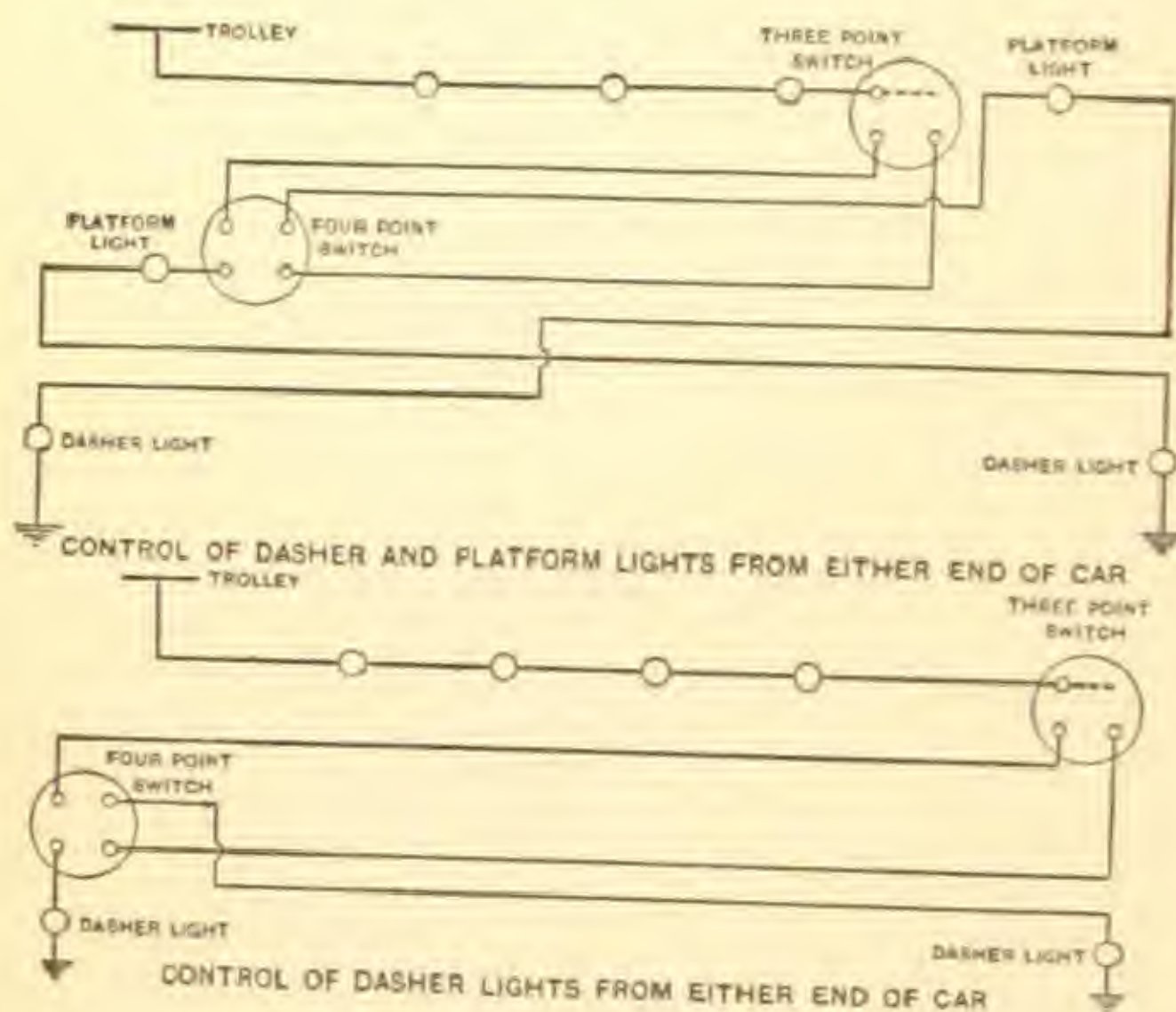
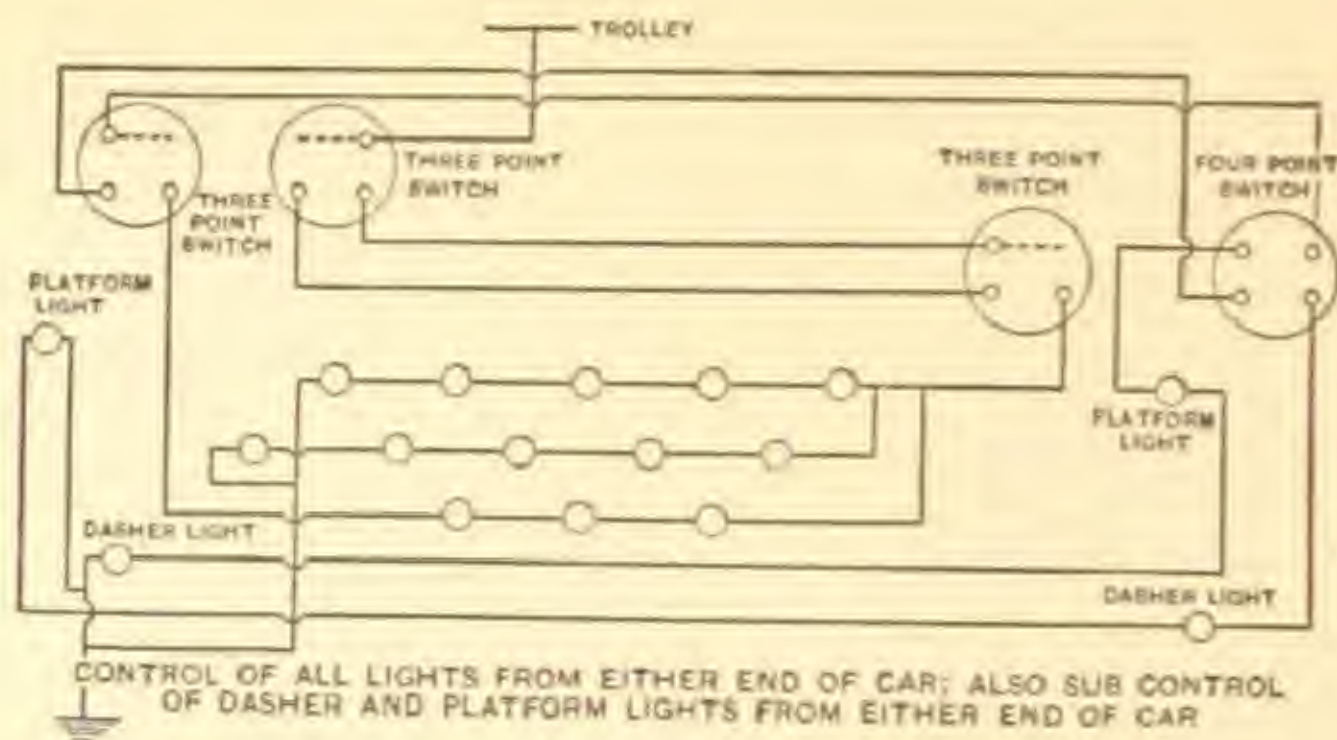


ELECTROLIER & 2 SPEED  
FAN MOTOR, CONNECTIONS  
1, 1 & 2, OFF. 1, 2, OFF.



## BRYANT WIRING DIAGRAMS

## WIRING DIAGRAMS FOR SURFACE SWITCHES





# NORTHERN ELECTRIC SHAWMUT ENCLOSED FUSES



Fuses with Spring Clip Contacts  
To Fit Blocks 3-60 Amperes, Inclusive

250 VOLTS

NATIONAL ELECTRICAL CODE STANDARD TO 600 AMPERES

To Fit 0-30-Ampere Blocks

Trade No.	Mfrs. No.	Cap. Amps.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Refilling Each
071283	2001	3	100	3 1/2	\$0.20	....
071284	2002	5	100	3 1/2	.20	....
071285	2003	6	100	3 1/2	.20	....
071286	2004	8	100	3 1/2	.20	....
071287	2005	10	100	3 1/2	.20	....
071288	2006	12	100	3 1/2	.20	....
071289	2007	15	100	3 1/2	.20	....
071290	2008	20	100	3 1/2	.20	....
071291	2009	25	100	3 1/2	.20	....
071292	2010	30	100	3 1/2	.20	....

To Fit 31-60 Ampere Blocks

071293	2011	35	100	10	.30	....
071294	2012	40	100	10	.30	....
071295	2013	45	100	10	.30	....
071296	2014	50	100	10	.30	....
071297	2015	55	100	10	.30	....
071298	2016	60	100	10	.30	....

To Fit 61-100-Ampere Blocks

071299	2017	65	50	13	.90	.60
071300	2018	70	50	13	.90	.60
071301	2019	75	50	13	.90	.60
071302	2020	80	50	13	.90	.60
071303	2021	90	50	13	.90	.60
071304	2022	100	50	13	.90	.60

To Fit 101-200-Ampere Blocks

071305	2023	110	25	17	2.00	.90
071306	2024	120	25	17	2.00	.90
071307	2025	125	25	17	2.00	.90
071308	2026	150	25	17	2.00	.90
071309	2027	175	25	17	2.00	.90
071310	2028	200	25	17	2.00	.90

To Fit 201-400-Ampere Blocks

071311	2029	225	25	36	3.60	1.50
071312	2030	250	25	36	3.60	1.50
071313	2031	275	25	36	3.60	1.50
071314	2032	300	25	36	3.60	1.50
071315	2033	350	25	36	3.60	1.50
071316	2034	400	25	36	3.60	1.50

To Fit 401-600-Ampere Blocks

071317	2035	450	10	24	5.50	2.00
071318	2036	500	10	24	5.50	2.00
071319	2037	550	10	24	5.50	2.00
071320	2038	600	10	24	5.50	2.00

To Fit 601-800-Ampere Blocks

44811	2466	650	10	42	12.00	4.00
44812	2305	700	10	42	12.00	4.00
44813	2467	750	10	42	12.00	4.00
44814	2306	800	10	42	12.00	4.00

To Fit 801-1000 Ampere Blocks

44823	2468	850	10	55	15.00	5.00
44824	2469	900	10	55	15.00	5.00
44825	2472	950	10	55	15.00	5.00
44826	2473	1000	10	55	15.00	5.00



Fuses with Knife-Blade Contacts  
To Fit Blocks 65-1000 Amperes, Inclusive

600 VOLTS

To Fit 0-30-Ampere Blocks

Trade No.	Mfrs. No.	Cap. Amps.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Refilling Each
071327	2039	3	100	13	.40	....
071328	2040	5	100	13	.40	....
071329	2041	6	100	13	.40	....
071330	2042	8	100	13	.40	....
071331	2043	10	100	13	.40	....
071332	2044	12	100	13	.40	....
071333	2045	15	100	13	.40	....
071334	2046	20	100	13	.40	....
071335	2047	25	100	13	.40	....
071336	2048	30	100	13	.40	....

To Fit 31-60-Ampere Blocks

071337	2049	35	100	22	.60	....
071338	2050	40	100	22	.60	....
071339	2051	45	100	22	.60	....
071340	2052	50	100	22	.60	....
071341	2053	55	100	22	.60	....
071342	2054	60	100	22	.60	....

To Fit 61-100-Ampere Blocks

071343	2055	65	50	25	1.50	.80
071344	2056	70	50	25	1.50	.80
071345	2057	75	50	25	1.50	.80
071346	2058	80	50	25	1.50	.80
071347	2059	90	50	25	1.50	.80
071348	2060	100	50	25	1.50	.80

To Fit 101-200-Ampere Blocks

071349	2061	110	25	32	2.50	1.20
071350	2062	120	25	32	2.50	1.20
071351	2063	125	25	32	2.50	1.20
071352	2064	150	25	32	2.50	1.20
071353	2065	175	25	32	2.50	1.20
071354	2066	200	25	32	2.50	1.20

To Fit 201-400-Ampere Blocks

071355	2089	225	25	75	5.50	2.00
071356	2090	250	25	75	5.50	2.00
071357	2091	275	25	75	5.50	2.00
071358	2092	300	25	75	5.50	2.00
071359	2093	350	25	75	5.50	2.00
071360	2094	400	25	75	5.50	2.00

To Fit 401-600-Ampere Blocks

071361	2097	450	10	41	8.00	3.00
071362	2098	500	10	41	8.00	3.00
071363	2099	550	10	41	8.00	3.00
071364	2100	600	10	41	8.00	3.00

To Fit 601-800-Ampere Blocks

44819	2489	650	10	54	15.00	5.00
44820	2490	700	10	54	15.00	5.00
44821	2491	750	10	54	15.00	5.00
44822	2492	800	10	54	15.00	5.00

To Fit 801-1000-Ampere Blocks

44815	2493	850	10	70	18.00	6.00
44816	2494	900	10	70	18.00	6.00
44817	2495	950	10	70	18.00	6.00
44818	2496	1000	10	70	18.00	6.00



## NORTHERN ELECTRIC SHAWMUT ENCLOSED FUSES

## TYPE X, 250 VOLTS

## Extended Terminals



No. 2365

Showing Adaptation of C-S  
Extended Terminal Fuse

This type of fuse, having one long slotted terminal, is interchangeable on all Type A screw clamp contact blocks of standard manufacture, and will fit any post contacts whose centers lie within the ranges given under each size.

Trade No.	Mfrs. No.	Cap. Amps.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each	Refilling Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each	Refilling Price Each
47491	2352	3	100	6	\$0.25	....	47509	2370	75	50	20	\$0.90	\$0.60
47492	2353	5	100	6	.25	....	47510	2371	80	50	20	.90	.60
47493	2354	6	100	6	.25	....	47511	2372	90	50	20	.90	.60
47494	2355	8	100	6	.25	....	47512	2373	100	50	20	.90	.60
47495	2356	10	100	6	.25	....	47513	2374	110	25	9	2.00	.90
47496	2357	12	100	6	.25	....	47514	2375	120	25	9	2.00	.90
47497	2358	15	100	6	.25	....	47515	2376	125	25	9	2.00	.90
47498	2359	20	100	6	.25	....	47516	2377	150	25	9	2.00	.90
47499	2360	25	100	6	.25	....	47517	2378	175	25	9	2.00	.90
47500	2361	30	100	6	.25	....	47518	2379	200	25	9	2.00	.90
47501	2362	35	100	14	.35	....	47519	2380	225	25	30	3.60	1.50
47502	2363	40	100	14	.35	....	47520	2381	250	25	30	3.60	1.50
47503	2364	45	100	14	.35	....	47521	2382	275	25	30	3.60	1.50
47504	2365	50	100	14	.35	....	47522	2383	300	25	30	3.60	1.50
47505	2366	55	100	14	.35	....	47523	2384	350	10	11	3.60	2.00
47506	2367	60	100	14	.35	....	47524	2385	400	10	11	3.60	2.00
47507	2368	65	50	20	.90	.60	47525	2386	450	10	11	5.50	2.00
47508	2369	70	50	20	.90	.60	47526	2387	500	10	11	5.50	2.00

Range of centers on fuses 3 to 30 amperes is  $2\frac{1}{2}$  to 4 inches; 35 to 60 amperes, 4 to  $5\frac{3}{8}$  inches; 65 to 100 amperes, 5 to  $5\frac{5}{8}$  inches; 110 to 200 amperes,  $5\frac{3}{8}$  to  $6\frac{3}{4}$  inches; 225 to 300 amperes,  $6\frac{3}{4}$  to 7 inches; 350 to 500 amperes,  $6\frac{3}{4}$  to  $8\frac{3}{8}$  inches.

## TYPE G, 250 VOLTS

## For G-E and D &amp; W Clip Cut-Outs



No. 2261



No. 2281

Trade No.	Mfrs. No.	Cap. Amps.	Length Over All, Inches	Diameter Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
47527	2252	3	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	\$0.25
47528	2253	5	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25
47529	2254	6	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25
47530	2255	8	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25
47531	2256	10	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25
47532	2257	12	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25
47533	2258	15	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25
47534	2259	20	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25
47535	2260	25	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25
47536	2261	30	$2\frac{1}{2}$	$\frac{5}{8}$	100	6	.25

## TYPE J, 250 VOLTS

## For Noark Plug Fuse Cases and G-E 15-Ampere Cut-Outs

Trade No.	Mfrs. No.	Cap. Amps.	Length Over All, Inches	Diameter Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
47537	2272	3	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47538	2273	5	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47539	2274	6	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47540	2275	8	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47541	2276	10	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47542	2277	12	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47543	2278	15	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47544	2279	20	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47545	2280	25	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18
47546	2281	30	$1\frac{3}{4}$	$\frac{1}{2}$	100	3	.18



# NORTHERN ELECTRIC SHAWMUT ENCLOSED FUSES

## TYPE A, 2500 VOLTS



Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Refilling Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Refilling Price Each
44851	22145	1	\$0.50	....	042291	2225	40	\$1.20	....
042280	2214	3	.50	....	042292	2226	45	1.20	....
042281	2215	5	.50	....	042293	2227	50	1.20	....
042282	2216	6	.50	....	042294	2228	55	1.20	....
042283	2217	8	.50	....	042295	2229	60	1.20	....
042284	2218	10	.50	....	042296	2230	65	2.40	1.20
042285	2219	12	.50	....	042297	2231	70	2.40	1.20
042286	2220	15	.50	....	042298	2232	75	2.40	1.20
042287	2221	20	.85	....	042299	2233	80	2.40	1.20
042288	2222	25	.85	....	042300	2234	90	2.40	1.20
042289	2223	30	.85	....	042301	2235	100	2.40	1.20
042290	2224	35	1.20	....	.....	....	...	....	....

Distance between centers on fuses 1 to 30 amperes is  $7\frac{1}{4}$  inches; 35 to 60 amperes,  $8\frac{1}{4}$  inches; 65 to 100 amperes,  $9\frac{1}{4}$  inches.

Standard package of fuses 1 to 60 amperes is 100; 65 to 100 amperes, 50.

Standard package weight of fuses 1 to 30 amperes, 12 pounds; 35 to 60 amperes, 20 pounds; 65 to 100 amperes, 16 pounds.

## TYPE P, 2500 VOLTS



44852	22365	1	.46	....	042310	2244	25	.60	....
042302	2236	3	.46	....	042311	2245	30	.60	....
042303	2237	5	.46	....	042312	2246	35	.75	....
042304	2238	6	.46	....	042313	2247	40	.75	....
042305	2239	8	.46	....	042314	2248	45	.75	....
042306	2240	10	.46	....	042315	2249	50	.75	....
042307	2241	12	.46	....	042316	2250	55	.75	....
042308	2242	15	.46	....	042317	2251	60	.75	....
042309	2243	20	.60	....	.....	....	..	...	....

Length over all on fuses 3 to 30 amperes is  $6\frac{1}{4}$  inches; 35 to 60 amperes,  $7\frac{1}{4}$  inches.

Diameter of ferrule on fuses 3 to 30 amperes is .685 inch; 35 to 60 amperes, .935 inch.

Standard package of Type P fuses is 100. Standard package weight of fuses 1 to 30 amperes, 12 pounds; 35 to 60 amperes, 24 pounds.

## TYPE K, 2500 VOLTS



15482	2600	1	1.75	1.25	15493	2611	35	3.00	2.20
15483	2601	3	1.75	1.25	15494	2612	40	3.00	2.20
15484	2602	5	1.75	1.25	15495	2613	45	3.00	2.20
15485	2603	6	1.75	1.25	15496	2614	50	3.00	2.20
15486	2604	8	1.75	1.25	15497	2615	55	3.00	2.20
15487	2605	10	1.75	1.25	15498	2616	60	3.00	2.20
15488	2606	12	1.75	1.25	15499	2617	65	3.40	2.40
15489	2607	15	1.75	1.25	15500	2618	70	3.40	2.40
15490	2608	20	2.60	2.00	15501	2619	75	3.40	2.40
15491	2609	25	2.60	2.00	15502	2620	80	3.40	2.40
15492	2610	30	2.60	2.00	15503	2621	90	3.40	2.40
.....	....	..	....	....	15504	2622	100	3.40	2.40

Length over all on fuses 3 to 30 amperes is 10 inches; 35 to 60 amperes,  $10\frac{1}{2}$  inches; 65 to 100 amperes, 11 inches.

Standard package of fuses 1 to 30 amperes is 25; 35 to 100 amperes, 25.

Standard package weight of fuses 1 to 30 is 18 pounds; 35 to 60 amperes, 27 pounds; 65 to 100 amperes, 35 pounds.



## NORTHERN ELECTRIC SHAWMUT RENEWABLE FUSES

NATIONAL ELECTRICAL CODE DIMENSIONS

250 Volts

FUSES COMPLETE

Ferrule Contact Type  
0-60 AmperesKnife Blade Contact Type  
61-600 Amperes

Trade No.	Mfrs. No.	Cap. Amp.	Std. Pkg.	Std. Wt., Lbs.	Pkg. Price Each
186740	1001	3	100	6	\$0.50
186741	1002	5	100	6	.50
186742	1003	6	100	6	.50
186743	1004	8	100	6	.50
186744	1005	10	100	6	.50
186745	1006	12	100	6	.50
186746	1007	15	100	6	.50
186747	1008	20	100	6	.50
186748	1009	25	100	6	.50
186749	1010	30	100	6	.50
186750	1011	35	100	15	1.00
186751	1012	40	100	15	1.00
186752	1013	45	100	15	1.00
186753	1014	50	100	15	1.00
186754	1015	55	100	15	1.00
186755	1016	60	100	15	1.00
186756	1017	65	50	20	2.00
186757	1018	70	50	20	2.00
186758	1019	75	50	20	2.00

Trade No.	Mfrs. No.	Cap. Amp.	Std. Pkg.	Std. Wt., Lbs.	Pkg. Price Each
186759	1020	80	50	20	\$2.00
186760	1021	90	50	20	2.00
186761	1022	100	50	20	2.00
186762	1023	110	25	26	4.00
186763	1024	120	25	26	4.00
186764	1025	125	25	26	4.00
186765	1026	150	25	26	4.00
186766	1027	175	25	26	4.00
186767	1028	200	25	26	4.00
186768	1029	225	25	50	7.50
186769	1030	250	25	50	7.50
186770	1031	275	25	50	7.50
186771	1032	300	25	50	7.50
186772	1033	350	25	50	7.50
186773	1034	400	25	50	7.50
186774	1035	450	10	32	11.00
186775	1036	500	10	32	11.00
186776	1037	550	10	32	11.00
186777	1038	600	10	32	11.00

## RENEWAL ELEMENTS



Ferrule Type Renewal

Trade No.	Mfrs. No.	Cap. Amp.	Std. Pkg.	Std. Wt., Oz.	Pkg. Price Each
186778	3001	3	100	2	\$0.03
186779	3002	5	100	2	.03
186780	3003	6	100	2	.03
186781	3004	8	100	2	.03
186782	3005	10	100	2	.03
186783	3006	12	100	2	.03
186784	3007	15	100	2	.03
186785	3008	20	100	2	.03
186786	3009	25	100	2	.03
186787	3010	30	100	2	.03
186788	3011	35	100	8	.05
186789	3012	40	100	8	.05
186790	3013	45	100	8	.05
186791	3014	50	100	8	.05
186792	3015	55	100	8	.05
186793	3016	60	100	8	.05
186794	3017	65	50	6	.10
186795	3018	70	50	6	.10
186796	3019	75	50	6	.10



Knife Blade Type Renewal

Trade No.	Mfrs. No.	Cap. Amp.	Std. Pkg.	Std. Wt., Oz.	Pkg. Price Each
186797	3020	80	50	6	\$0.10
186798	3021	90	50	6	.10
186799	3022	100	50	6	.10
186800	3023	110	25	9	.15
186801	3024	120	25	9	.15
186802	3025	125	25	9	.15
186803	3026	150	25	9	.15
186804	3027	175	25	9	.15
186805	3028	200	25	9	.15
186806	3029	225	25	18	.30
186807	3030	250	25	18	.30
186808	3031	275	25	18	.30
186809	3032	300	25	18	.30
186810	3033	350	25	18	.30
186811	3034	400	25	18	.30
186812	3035	450	10	14	.60
186813	3036	500	10	14	.60
186814	3037	550	10	14	.60
186815	3038	600	10	14	.60



# NORTHERN ELECTRIC SHAWMUT RENEWABLE FUSES

NATIONAL ELECTRICAL CODE DIMENSIONS  
600 Volts  
FUSES COMPLETE



Ferrule Contact Type



Knife Blade Contact Type

Trade No.	Mfrs. No.	Cap. Amps.	Std. Pkg.	Std. Wt., Lbs.	Price Each
186826	1039	3	100	19	\$1.10
186827	1040	5	100	19	1.10
186828	1041	6	100	19	1.10
186829	1481	7	100	19	1.10
186830	1042	8	100	19	1.10
186831	1043	10	100	19	1.10
186832	1044	12	100	19	1.10
186833	1045	15	100	19	1.10
186834	1046	20	100	19	1.10
186835	1047	25	100	19	1.10
186836	1048	30	100	19	1.10
186837	1049	35	100	36	1.25
186838	1050	40	100	36	1.25
186839	1051	45	100	36	1.25
186840	1052	50	100	36	1.25
186841	1053	55	100	36	1.25
186842	1054	60	100	36	1.25
186843	1055	65	50	35	3.00
186844	1056	70	50	35	3.00
186845	1057	75	50	35	3.00

Trade No.	Mfrs. No.	Cap. Amps.	Std. Pkg.	Std. Wt., Lbs.	Price Each
186846	1058	80	50	35	\$3.00
186847	1059	90	50	35	3.00
186848	1060	100	50	35	3.00
186849	1061	110	25	39	5.00
186850	1062	120	25	39	5.00
186851	1063	125	25	39	5.00
186852	1064	150	25	39	5.00
186853	1065	175	25	39	5.00
186854	1066	200	25	39	5.00
186855	1089	225	25	80	11.00
186856	1090	250	25	80	11.00
186857	1091	275	25	80	11.00
186858	1092	300	25	80	11.00
186859	1093	350	25	80	11.00
186860	1094	400	25	80	11.00
186861	1097	450	10	52	16.00
186862	1098	500	10	52	16.00
186863	1099	550	10	52	16.00
186864	1100	600	10	52	16.00

## RENEWAL ELEMENTS



Ferrule Type Renewal



Knife Blade Type Renewal

Trade No.	Mfrs. No.	Cap. Amps.	Std. Pkg.	Std. Wt., Lbs.	Price Each
186865	3039	3	100	9	\$0.05
186866	3040	5	100	9	.05
186867	3041	6	100	9	.05
186868	3481	7	100	9	.05
186869	3042	8	100	9	.05
186870	3043	10	100	9	.05
186871	3044	12	100	9	.05
186872	3045	15	100	9	.05
186873	3046	20	100	9	.05
186874	3047	25	100	9	.05
186875	3048	30	100	9	.05
186876	3049	35	100	24	.06
186877	3050	40	100	24	.06
186878	3051	45	100	24	.06
186879	3052	50	100	24	.06
186880	3053	55	100	24	.06
186881	3054	60	100	24	.06
186882	3055	65	50	10	.10
186883	3056	70	50	10	.10
186884	3057	75	50	10	.10

Trade No.	Mfrs. No.	Cap. Amps.	Std. Pkg.	Std. Wt., Oz.	Price Each
186885	3058	80	50	10	\$0.10
186886	3059	90	50	10	.10
186887	3060	100	50	10	.10
186888	3061	110	25	14	.15
186889	3062	120	25	14	.15
186890	3063	125	25	14	.15
186891	3064	150	25	14	.15
186892	3065	175	25	14	.15
186893	3066	200	25	14	.15
186894	3089	225	25	30	.30
186895	3090	250	25	30	.30
186896	3091	275	25	30	.30
186897	3092	300	25	30	.30
186898	3093	350	25	30	.30
186899	3094	400	25	30	.30
186900	3097	450	10	24	.60
186901	3098	500	10	24	.60
186902	3099	550	10	24	.60
186903	3100	600	10	24	.60

### Snap Washers

Trade No.	Mfrs. No.	For Fuses	Std. Pkg.	Price Each
186904	1103	1001-1010		
186905	1104	1011-1016	50	\$0.02
		1039-1048	50	.03
186906	1106	1017-1022	50	.01
186907	1107	1023-1028	50	.02
186908	1108	1029-1034	50	.04
186909	1109	1035-1038		

Trade No.	Mfrs. No.	For Fuses	Std. Pkg.	Price Each
186910	1105	1049-1054	50	\$0.04
186911	1110	1055-1060	50	.02
186912	1111	1061-1066	50	.03
186913	1112	1089-1094	50	.04
186914	1113	1097-1100	50	.05

### Soft Washers



## SHAWMUT FUSE BLOCKS



No. 2077



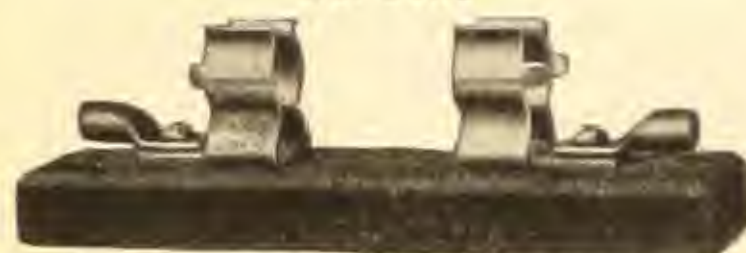
No. 2081



No. 2087



No. 2102



No. 2068



No. 2071



No. 20735



No. 2075



No. 2322



No. 2325



No. 2624

## 250 VOLTS

NATIONAL ELECTRICAL CODE STANDARD TO 600 AMPERES  
Porcelain

Trade No.	Mfrs. No.	Number of Poles	Max. Cap. Amps.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
041701	20675	Single, main	30	50	28	\$0.40
041702	2077	Double, main	30	50	45	.55
041703	2079	Triple, main	30	50	70	.80
041704	2081	Double, S. B.	30	50	55	.70
041705	2083	Triple, S. B.	30	50	115	1.35
041706	20835	Triple, D. B.	30	25	88	2.25
041707	2085	Double, D. B.	30	25	56	1.30
041708	2087	3-2-wire, D. B.	30	25	65	1.50
.....	.....	.....	.....	.....	.....	.....
041710	20685	Single, main	60	50	70	.65
041711	2078	Double, main	60	50	110	1.40
041712	2080	Triple, main	60	50	172	2.00
041713	2082	Double, S. B.	60	50	143	1.75
041714	2084	Triple, S. B.	60	50	225	3.00
041715	20845	Triple, D. B.	60	10	90	6.00
041716	2086	Double, D. B.	60	25	146	3.50
041717	2088	3-2-wire, D. B.	60	25	156	4.20
041718	20695	Single, main	100	50	165	1.40
041719	2101	Double, main	100	50	275	2.80
041720	2102	Triple, main	100	25	200	4.00

## Single-Pole Slate

Trade No.	Mfrs. No.	Max. Cap. Amperes	Length Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
041721	2067	30	5	50	28	\$0.40
041722	2068	60	6 1/4	50	38	.65
041723	2069	100	10	50	100	1.40
041724	2070	200	12	25	85	2.10
041725	2071	400	14 3/4	25	145	5.25
041726	2072	600	17 3/4	10	88	7.20
44841	2313	800	19 1/2	10	168	11.40
44842	2482	1000	22	10	190	14.70

## 600 VOLTS

## NATIONAL ELECTRICAL CODE STANDARD TO 600 AMPERES

## Single-Pole Porcelain

08682	20735	30	6 1/2	50	75	.60
08683	20745	60	8 3/8	50	115	.90

## Single-Pole Slate

08676	2073	30	8 1/4	50	50	.60
08677	2074	60	8 1/2	50	58	.90
08678	2075	100	12	50	125	1.75
08679	2076	200	14 1/2	25	105	2.30
08680	2095	400	17 3/4	25	190	6.00
08681	2096	600	20 3/4	10	113	7.80
44843	2497	800	22 1/2	10	260	12.80
44844	2498	1000	25	10	290	16.00

## 2500 VOLTS, SINGLE-POLE SLATE BASES

## Type A

Trade No.	Mfrs. No.	Max. Cap. Amps.	Length Fuse Over All	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
042318	2321	30	10	50	57	\$0.92
042319	2322	60	11	50	69	1.20
042320	2323	100	12 1/4	50	119	1.75

## Type P

042321	2324	30	8 1/4	50	44	.94
042322	2325	60	9 1/2	50	55	1.40

## Type K

15505	2623	30	14	25	80	2.25
15506	2624	60	14 1/2	25	100	2.50
15507	2625	100	15	25	114	2.75

Prices do not include fuses.



# SHAWMUT CONTACTS, LUGS AND CLIPS



No. 2110



No. 2114



Nos. 2118 and 21185



Nos. 2128 and 21285



No. 2104



No. 2107



No. 2470

## LUGS—ALL VOLTAGES

### NATIONAL ELECTRICAL CODE STANDARD TO 600 AMPERES

Front Connected					Back Connected		
Max. Cap. Amperes	Std. Pkg.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
60	100	012415	2109	\$0.08	44883	21095	\$0.08
100	100	012416	2110	.10	44884	21105	.24
200	100	012417	2111	.14	44885	21115	.44
400	50	012418	2112	.40	44886	21125	.90
600	20	012419	2113	.60	44887	21135	1.60
800	20	44861	2550	1.80	44888	25505	1.80
1000	20	44862	2551	2.20	44889	25515	2.20

## CONTACTS WITH LUGS, 250 VOLTS

### NATIONAL ELECTRICAL CODE STANDARD TO 600 AMPERES

Front Connected					Back Connected	
Trade No.	Mfrs. No.	Max. Cap. Amperes	Voltage	Std. Pkg.	Price Each	
08660	2114	30	250	100	\$0.10	
08661	2115	60	250	100	.20	
08664	2118	100	250	100	.50	
08665	2119	200	250	100	1.10	
08666	2120	400	250	50	3.00	
08667	2121	600	250	20	5.00	
44863	2351	800	250	20	8.00	
44864	2484	1000	250	20	12.00	
Back Connected						
08668	2122	30	250	100	.25	
08669	2123	60	250	100	.44	
08672	2126	100	250	100	2.00	
08673	2127	200	250	100	3.40	
08674	2128	400	250	50	6.00	
08675	2129	600	250	20	10.00	
44866	23515	800	250	20	12.00	
44865	24845	1000	250	20	16.00	

## 600 VOLTS

### NATIONAL ELECTRICAL CODE STANDARD TO 400 AMPERES

Front Connected					Back Connected	
Trade No.	Mfrs. No.	Max. Cap. Amperes	Voltage	Std. Pkg.	Price Each	
08662	2116	30	600	100	.14	
08663	2117	60	600	100	.24	
44867	21185	100	600	100	.50	
44868	21195	200	600	100	1.10	
44869	21205	400	600	50	3.00	
44870	21215	600	600	20	5.00	
44871	2499	800	600	20	8.00	
44872	2502	1000	600	20	12.00	
Back Connected						
08670	2124	30	600	100	.30	
08671	2125	60	600	100	.50	
44873	21265	100	600	100	2.00	
44874	21275	200	600	100	3.40	
44875	21285	400	600	50	6.00	
44876	21295	600	600	20	10.00	
44877	2503	800	600	20	12.00	
44878	2504	1000	600	20	16.00	

All except 30-ampere contacts are fitted with lugs. In ordering back connection contacts specify thickness of board.

## FUSE CLIPS ONLY

### NATIONAL ELECTRICAL CODE STANDARD

Trade No.	Mfrs. No.	Max. Cap. Amperes	Voltage	Std. Pkg.	Price Each
012409	2103	30	250	100	.03
012410	2104	60	250	100	.06½
012413	2107	100	250	100	.14
012414	2108	200	250	100	.30
012411	2105	30	600	100	.06
012412	2106	60	600	100	.09
44879	21075	100	600	100	.14
44880	21085	200	600	100	.30

## AUXILIARY CONTACT CLIPS

For use on formed contacts of knife blade type where extreme contact is desired or where there is considerable vibration.

Trade No.	Mfrs. No.	Max. Cap. Amperes	Voltage	Std. Pkg.	Price Each
44881	2470	100	All voltages	100	.15
44882	2471	200	All voltages	50	.20



## SHAWMUT TESTED FUSE WIRE AND RIBBON

## TESTED FUSE WIRE

Shawmut Fuse Wire is composed of a special alloy which is drawn with the greatest care into smooth and accurate wire, and years of continuous testing have shown it to be perfectly homogeneous and remarkably constant in its action.

Trade No.	Mfrs. No.	Carrying Capacity Amperes	Standard Length Inches	Diameter in Mils	Feet per Pound	Price per Pound
44891	3500	$1\frac{1}{8}$	$11\frac{1}{2}$	5	10800	\$365.00
44892	3501	$1\frac{1}{4}$	$11\frac{1}{2}$	10	2700	9.00
44893	3502	$1\frac{1}{2}$	$11\frac{1}{2}$	17	950	2.75
44894	3503	$1\frac{3}{4}$	$11\frac{1}{2}$	$18\frac{1}{2}$	810	2.75
44895	3504	1	$11\frac{1}{2}$	20	670	1.10
44896	3505	$1\frac{1}{2}$	$11\frac{1}{2}$	23	510	1.05
44897	3506	2	$11\frac{1}{2}$	25	430	1.05
44898	3507	3	$11\frac{1}{2}$	27	370	1.00
44899	3508	4	$11\frac{1}{2}$	30	300	1.00
44900	3509	5	2	35	220	1.00
44901	3510	6	2	38	185	.85
44902	3511	7	2	44	140	.85
44903	3512	8	2	47	120	.80
44904	3513	9	2	54	93	.80
44905	3514	10	2	58	80	.80
44906	3515	12	3	62	70	.80
44907	3516	14	3	68	60	.80
44908	3517	15	3	70	52	.75
44909	3518	16	3	75	49	.75
44910	3519	18	3	80	43	.75
44911	3520	20	4	85	36	.75
44912	3521	25	4	90	32	.75
44913	3522	30	4	100	26	.75
44914	3523	35	4	110	22	.75
44915	3524	40	4	120	18	.75
44916	3525	45	4	125	17	.75
44917	3526	50	4	145	12.5	.75
44918	3527	60	5	160	10.3	.70
44919	3528	70	5	175	9	.70
44920	3529	75	5	180	8.3	.70
44921	3530	80	5	190	7.5	.70
44922	3531	90	5	200	6.7	.70
44923	3532	100	5	220	5.5	.70

Standard package, 10 pounds assorted.

## TESTED FUSE RIBBON

Trade No.	Mfrs. No.	Carrying Capacity Amperes	Standard Length Inches	Size in Inches	Feet per Pound	Price per Pound
44924	35315	50	4	.36 x .047	13	\$0.60
44925	35325	60	4	.44 x .047	10	.60
44926	3533	70	4	.47 x .047	9.55	.60
44927	3534	75	4	.50 x .047	9.1	.60
44928	3535	80	4	.375 x .078	7.1	.60
44929	3536	90	4	.44 x .078	6.1	.60
44930	3537	100	4	.44 x .094	5.2	.50
44931	3538	115	4	.375 x .125	4.4	.50
44932	3539	125	4	.50 x .094	4.4	.50
44933	3540	150	4	.57 x .094	4	.50
44934	3541	175	4	.64 x .094	3.5	.50
44935	3542	190	4	.75 x .094	3	.50
44936	3543	200	4	.875 x .094	2.6	.50
44937	3544	225	4	1 x .094	2.2	.50
44938	3545	250	$4\frac{1}{2}$	1 x .110	1.9	.50
44939	3546	275	$4\frac{1}{2}$	1 x .130	1.65	.50
44940	3547	300	$4\frac{1}{2}$	1 x .150	1.4	.50
44941	3548	350	$4\frac{1}{2}$	1.94 x .075	1.43	.50
44942	3549	400	$4\frac{1}{2}$	1 x .20	1.1	.50
44943	3550	450	$4\frac{1}{2}$	1.125 x .20	.97	.50
44944	3551	500	$4\frac{1}{2}$	1.25 x .20	.85	.50
44945	3552	550	$4\frac{1}{2}$	1.37 x .20	.78	.50
44946	3553	600	$4\frac{1}{2}$	1.50 x .20	.70	.50

\* Standard package, 10 pounds assorted.



## SHAWMUT FUSE LINKS



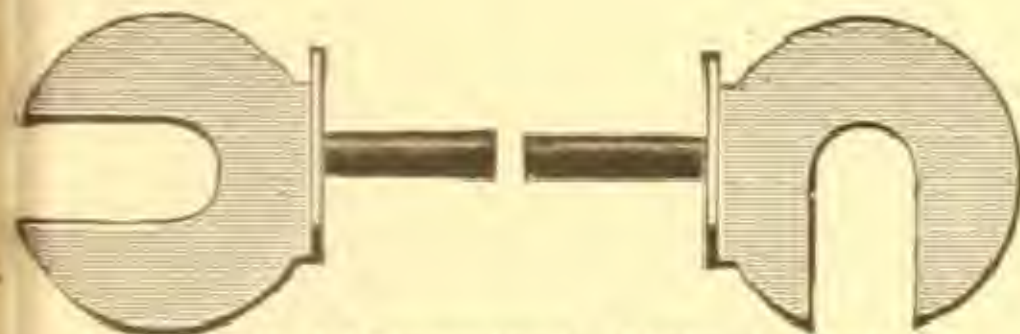
No. 1B Terminal. Slots,  $\frac{1}{8}$  inch



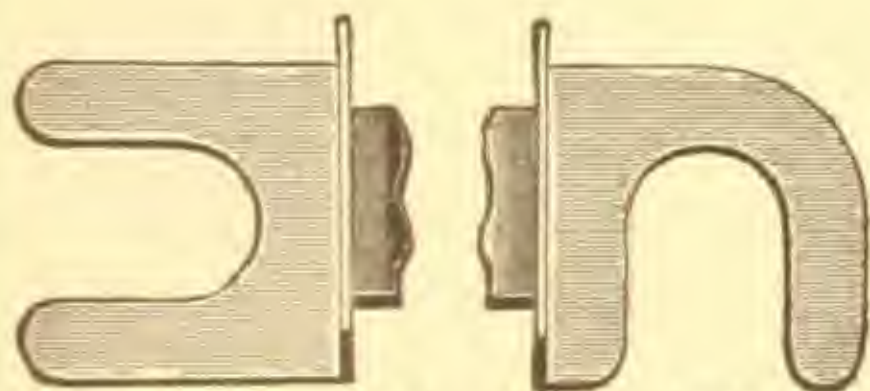
No. 2  $\frac{1}{2}$  B Terminal. Slots,  $\frac{3}{16}$  inch



No. 3A Terminal. Slots,  $\frac{3}{32}$  inch



No. 4A Terminal. Slots,  $\frac{1}{4}$  inch



No. 5A Terminal. Slots,  $\frac{3}{8}$  inch

No. 6A Terminal. Slots,  $\frac{1}{2}$  inch

No. 8A Terminal. Slots,  $\frac{3}{4}$  inch



Railway Fuse Link Slots,  $\frac{1}{4}$  inch

### TESTED FUSE LINKS

"A" terminals have one slot parallel and one slot perpendicular to the center line of the link; "B" terminals have both slots parallel, and "C" terminals both perpendicular to center line. Made in all styles except where noted on tables below.

Capacity Amperes	Terminal No.	PRICE, PER 100 CENTER TO CENTER, INCHES		
		Up to 1 $\frac{1}{2}$	1 $\frac{1}{2}$ to 3 $\frac{1}{2}$	3 $\frac{1}{2}$ to 5
1 to 5	1B	\$2.00	\$3.00	\$4.00
5 to 30	2 $\frac{1}{2}$ B	3.00	4.00	5.00
35 to 100	3	3.00	5.00	6.00
35 to 100	4	4.00	6.00	8.00

Standard package, 100 of one size.

Capacity Amperes	Terminal No.	PRICE, PER 100 CENTER TO CENTER, INCHES		
		Up to 2 $\frac{1}{2}$	2 $\frac{1}{2}$ to 5	5 $\frac{1}{4}$ to 8
25 to 100	5	\$10.00	\$15.00	\$20.00
110 to 200	5 or 6	12.00	18.00	24.00
210 to 400	6	15.00	22.50	30.00
410 to 600	6	20.00	30.00	40.00

Standard package, 50 of assorted sizes.

Capacity Amperes	Terminal No.	PRICE, PER 100 CENTER TO CENTER, IN.	
		Up to 5	5 $\frac{1}{4}$ to 8
100 to 400	8	\$25.00	\$40.00
410 to 600	8	40.00	60.00
610 to 800	8	55.00	80.00
810 to 1000	8	75.00	100.00

Standard package, 25 of assorted sizes.

Capacity Amperes	Terminal No.	PRICE, PER 100 CENTER TO CENTER, IN.	
		Up to 4	4 $\frac{1}{4}$ to 8
100 to 200	10C	\$40.00	\$60.00
210 to 400	10C	45.00	70.00
410 to 600	10C	50.00	80.00
610 to 800	10C	60.00	90.00
810 to 1000	10C	75.00	100.00

No. 10C terminals are similar to No. 8C terminals, but heavier and have  $\frac{1}{8}$  inch slot.

Standard package, 25 of assorted sizes.

### RAILWAY FUSE LINKS

Capacity Amperes	Style	Centers Inches	Std. Pkg.	Price per 1000
50 to 100	Round	2 $\frac{1}{4}$	500	\$40.00
100	Flat	2 $\frac{1}{4}$	500	40.00
125 to 150	Flat	2 $\frac{1}{4}$	500	50.00

In ordering, be sure to give amperage and terminal number.



## DUNCAN PLUG CUT-OUTS

## SCHEDULE I



No. 1695



No. 1851



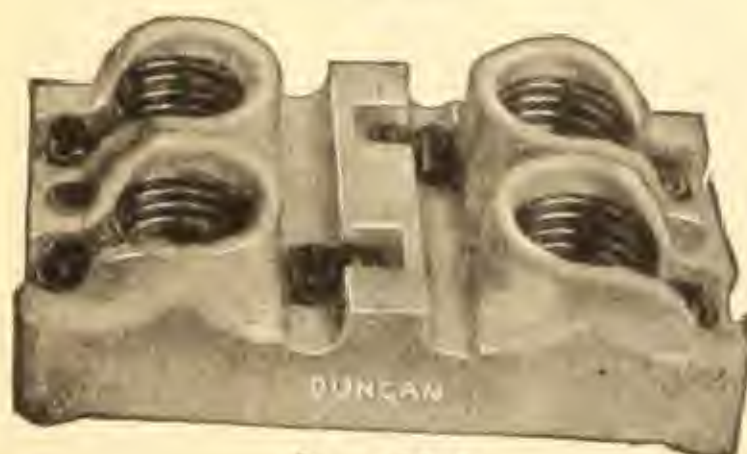
No. 62965



No. 61935



No. 8020



No. 62587



No. 61936



No. 62588

## COMBINED SWITCHES AND CUT-OUTS

25-ampere capacity knife switches, with heavy blades and positive contacts supplied with switch handle at the top but knife blades and contact posts are made with screw holes so that they can readily be changed over to switch handle at the base.

## Main Line

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203892	1695	100	170	\$90.00

## Single Branch

203893	1851	100	170	100.00
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## EDISON PLUG CUT-OUTS

## DOUBLE-POLE, 0-30 AMPERES

## Main Line

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203894	62965	150	105	\$30.00

## Single Branch

203895	61935	100	95	32.00
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## Crossover

203896	8020	150	160	36.00
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## Double Branch

203897	62587	100	155	62.00
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## EDISON COVER PLUG CUT-OUTS

## DOUBLE-POLE, 0-30 AMPERES

## Single Branch

Trade No.	Mfrs. No.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
203898	61936	100	130	\$44.00

## Double Branch

203899	62588	100	205	81.00
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## EDISON PLUG CUT-OUTS AND FUSES

NATIONAL ELECTRICAL CODE STANDARD



No. 62569



No. 62965



No. 62165



No. 61935



No. 8042



No. 62587



No. 62199

### PLUG CUT-OUTS

SCHEDULE J2

30 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Carto	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
043001	62569	Single-pole, main	10	150	70	\$0.18
043002	62965	Double-pole, main	10	150	100	.30
043003	62165	Triple-pole, main	5	100	100	.44
043004	61935	Double-pole, single branch	5	100	95	.32
043005	8042	Triple-pole, single branch	1	75	145	.54
043006	62587	Double-pole, double branch	5	100	155	.62
043007	62199	Three to two-wire, double branch	5	100	175	.64
043008	62135	Triple-pole, double branch	1	50	145	.90
043009	8020	Double-pole, single or double crossover branch	5	150	150	.36



No. 62135



No. 8020

### PLUG FUSE CASINGS

SCHEDULE E5

043010	1945	0-30 amps., 125 volts	10	100	17	.18
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Fuses are not included with the above casings; they should be ordered separately according to the carrying capacity desired.

### PLUG FUSES

SCHEDULE J3

Mica Cap—125 Volts

Trade No.	Mfrs. No.	Size Amps.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
043011	66327	3	50	500	48	\$0.07
043012	66329	6	50	500	48	.07
043013	66331	10	50	500	48	.07
043014	66333	12	50	500	48	.07
043015	66335	15	50	500	48	.07
043016	66337	20	50	500	48	.07
043017	66339	25	50	500	48	.07
043018	66341	30	50	500	48	.07

For plug fuses with special finish caps, add 3 cents to above prices.

The above fuses can be furnished with solid brass caps on special order at  $\frac{1}{2}$  cent each in addition to above prices.

### SHORT CIRCUITING PLUGS

SCHEDULE H2

Designed to make possible compliance with the specifications of the National Electrical Code which prohibits the placing of fuses in any permanently grounded wire except in the cut-out just preceding lamp sockets or other translating devices. This ruling necessitates a special cut-out or else the bridging of the cut-out in the grounded wire. This plug can be readily soldered into any plug cut-out and makes a safe and reliable connection. Its appearance is such that its improper use as a substitute for a fuse can readily be detected.

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Price Each
92471	559	For service cut-outs and entrance switches	75	300	\$0.05



No. 559



## PERKINS PANEL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2



Flush cabinet with  
Dead Front Switches  
Installed



Nos. 2700 and 2725



No. 2685



No. 2727



Nos. 2523 and 2729



Nos. 2626 and 2730

### PUSH PANEL SWITCHES

Each branch is fitted with a double-pole switch, which is mounted on a separate base and may be removed without disturbing either main or branch connections.

These switches may be installed in any standard cabinet having minimum depth of 3 inches. Gutter cabinets may be specified to the exact size of the switch as there is  $\frac{1}{2}$ -inch of insulation outside of all current carrying parts as required by the National Electrical Code.

### WITH CONNECTIONS FOR PLUG FUSES

\*WITH SAFETY COVERS—DEAD FRONT  
10 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Std. Carton	Wt., Lbs.	Price Each
19826	2698	Double-pole, single branch $6\frac{5}{8} \times 3$ inches.	1	10 31	\$2.25
19827	2699	Double-pole, double branch, $10\frac{1}{2} \times 3$ inches.	1	10 48	3.50
19828	2700	Triple to double-pole, double branch $11\frac{5}{8} \times 3$ inches.	1	10 56	3.75
121366	2723	Double-pole, single branch $6\frac{5}{8} \times 3$ inches.	1	10 33	2.50
121367	2724	Double-pole, double branch $10\frac{1}{2} \times 3$ inches.	1	10 50	4.00
121368	2725	Triple to double-pole, double branch $11\frac{5}{8} \times 3$ inches.	1	10 58	4.25

### WITH CONNECTIONS FOR CARTRIDGE FUSES

\*WITH SAFETY COVERS—DEAD FRONT  
10 Amperes, 250 Volts

19829	2684	Double-pole, single branch $7\frac{7}{8} \times 3$ inches.	1	10 40	2.50
19830	2685	Double-pole, double branch $12\frac{7}{8} \times 3$ inches.	1	10 62	4.75
19831	2686	Triple to double-pole, double branch $14 \times 3$ inches.	1	10 68	5.25
121369	2726	Double-pole, single branch $7\frac{7}{8} \times 3$ inches.	1	10 42	2.50
121370	2727	Double-pole, double branch $12\frac{7}{8} \times 3$ inches.	1	10 64	4.75
121371	2728	Triple to double-pole, double branch $14 \times 3$ inches.	1	10 70	5.25

### SWITCH MECHANISMS ONLY

121372	†2523	10 amp. push button.	10	50 14	.80
121373	†2729	20 amp. push button.	10	50 15	1.05
121374	†2526	10 amp. push lock.	10	50 14	1.30
121375	†2730	20 amp. push lock.	10	50 15	1.55

\*The covers of these switches are steel, lined with insulating material. Each cover has an overhanging edge which engages with the cover of the adjoining switch, thereby effectively preventing accidental contact with any live parts. Covers are the same length as the bases.

Orders will regularly be filled with switches having dull black covers. White enamel covers will be supplied, when specified without extra charge. All other finishes on covers, add 50 cents.

Push button switches can be converted into lock switches by substituting, for Nos. 2523 or 2729 push button mechanisms, Nos. 2526 or 2730 lock mechanisms. Rotary switches can be converted into lock switches by substituting, for the handles, No. 2384 lock attachment.

†100 assorted switch mechanisms also constitute a standard package.



# PERKINS PANEL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE H2

## ROTARY PANEL SWITCHES

Each branch is fitted with a double-pole switch, which is mounted on a separate base and may be removed without disturbing either main or branch connections. On special order, switches will be fitted with expulsion type mechanisms for inductive loads at an additional list price of \$0.30 per branch.

These switches may be installed in any standard cabinet having a minimum depth of 3 inches. Gutter cabinets may be specified to the exact size of the switch bases, as there is  $\frac{1}{2}$  inch of insulation outside of all current carrying parts.



Flush Cabinet with Dead Front  
Switches Installed



No. 2600



No. 2360



No. 2688



No. 2535



No. 2595

## WITH CONNECTIONS FOR PLUG FUSES

### \*WITH SAFETY COVERS—DEAD FRONT 10 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs.	Price Std. Pkg. Each
19823	2598	Double-pole, single branch 6 $\frac{5}{8}$ x3 inches	1	10	32	\$2.00
19824	2599	Double-pole, double branch 10 $\frac{1}{4}$ x3 inches	1	10	48	3.00
19825	2600	Triple to double-pole, double branch 11 $\frac{5}{8}$ x3 inches	1	10	56	3.25

### WITH SAFETY COVERS—OPEN FRONT 10 Amperes, 125 Volts

021099	2400	Double-pole, single branch 6 $\frac{5}{8}$ x3 inches	1	10	30	1.60
021100	2300	Double-pole, double branch 10 $\frac{1}{4}$ x3 inches	1	10	48	2.75
021101	2360	Triple to double-pole, double branch 11 $\frac{5}{8}$ x3 inches	1	10	57	3.00

## WITH CONNECTIONS FOR CARTRIDGE FUSES

### \*WITH SAFETY COVERS—DEAD FRONT 10 Amperes, 250 Volts

121361	2687	Double-pole, single branch 7 $\frac{7}{8}$ x3 inches	1	10	43	2.25
121362	2688	Double-pole, double branch 12 $\frac{7}{8}$ x3 in.	1	10	65	4.50
121363	2689	Triple to double-pole, double branch 14x3 inches	1	10	66	5.00

### WITH SAFETY COVERS—OPEN FRONT 10 Amperes, 250 Volts

19819	2534	Double-pole, single branch 7 $\frac{7}{8}$ x3 inches	1	10	35	2.00
19820	2535	Double-pole, double branch 12 $\frac{7}{8}$ x3 in.	1	10	55	3.75
19821	2536	Triple to double-pole, double branch 14x3 inches	1	10	60	4.25

## SWITCH MECHANISMS ONLY

121364	2595	Rotary, without handle	10	10	4	.71
121365	2794	Rotary expulsion type without handle	10	10	5	1.01

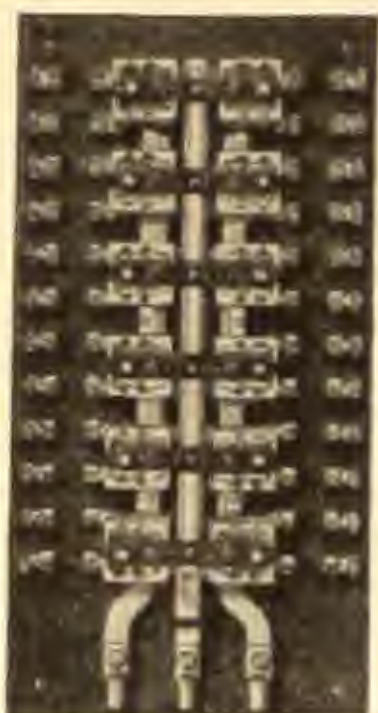
Orders will regularly be filled with switches having dull black covers. White enamel covers will be supplied when specified without extra charge. All other finishes on covers, add to list price \$0.50.

Rotary switches can be converted into lock switches by substituting for the handles, No. 2384 lock attachments.

\*The covers of these switches are steel, lined with insulating material. Each cover has an overhanging edge which engages with the cover of the adjoining switch, thereby effectively preventing accidental contact with any live parts. Covers are the same length as the bases.



## CROUSE-HINDS SAFETY PANELS AND CABINETS



Type EPS 3 to 2-wire Panel  
Board with Main Lugs,  
Branch Switch Cover Removed



Type B Steel Box, showing  
Panel and Slate Frame Installed

## GENERAL DESCRIPTION

Crouse-Hinds safety panels and cabinets allow unrestricted use of the circuit switches without the possibility of the operator touching any live part of the panel. Fuses and live parts are accessible only to persons holding the key to the separate compartment in which they are located.

Two types of panel boards are listed on following pages—type DPS arranged for Edison plug fuses in the branches, and type EPS panels, arranged for N. E. C. cartridge fuses in the branches. Both types of panels and cabinets conform in all respects to Crouse-Hinds high standards of construction, described on preceding pages.

Circuits are controlled by 10-ampere, 250-volt, indicating push button switches enclosed in porcelain cases. These switches are arranged in pairs horizontally, each pair being connected by a twin yoke which holds the switches the proper distance apart. A steel spacer bar runs vertically between the switches and is attached to the center of each yoke, thus spacing and aligning the switches so that the switch plate or cover may be easily placed in position and held by screws threading into the spacer bar at each end. The switch cover is made of No. 14 U. S. gauge steel and finished in oxidized copper. The number of each circuit is stamped on the switch cover, under the push buttons.

Mains on all 3 to 2-wire, 125-volt, and 2 to 2-wire, 250-volt panels are figured at 3 amperes per circuit. On 2 to 2-wire, 125-volt panels they are figured at 6 amperes per circuit. Panels can be furnished with main switches at top, but this necessitates increases in both price and size of panels.

## TYPE B STEEL BOXES

Type B steel boxes may be used for either flush or surface mounting. They are of proper size to form a 3-inch wiring compartment or gutter between the sides of the box and the slate frame surrounding the panel.

Boxes will be drilled for conduit without extra charge, provided complete drilling information accompanies the order. Knockouts will be furnished at the following additions per knockout to list prices:  $\frac{1}{2}$ ,  $\frac{3}{4}$  or 1-inch, 10 cents;  $1\frac{1}{4}$ ,  $1\frac{1}{2}$  or 2-inch, 15 cents.



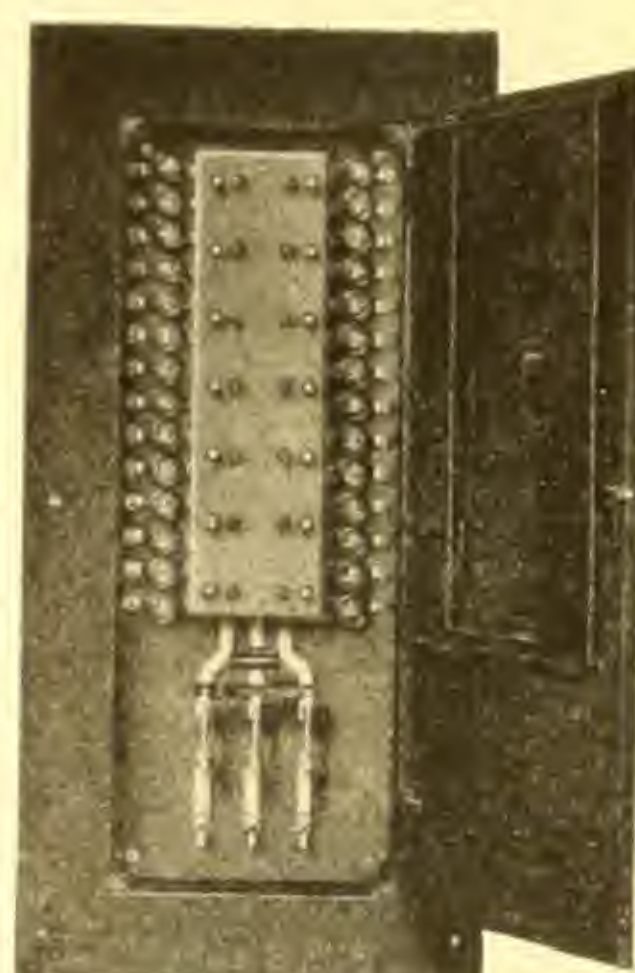
## CROUSE-HINDS SAFETY PANELS AND CABINETS



Form S1  
Both Doors Closed



Form S1  
Small Door Open,  
Giving Access to Switches



Form S1  
Large Door Open,  
Giving Access to Fuses



Form S2  
Outer Door Closed



Form S2  
Outer Door Open,  
Giving Access to Switches



Form S2  
Both Doors Open,  
Giving Access to Fuses

### STEEL TRIMS FOR SAFETY PANEL CABINETS

Trims for Safety panel cabinets are made in two standard forms—S1 and S2.

Form S1 trims have one large door, the same size as the panel, giving access to the entire panel. This door is provided with a combination Yale lock and spring catch with polished brass vault handle. In the large door is hung a small door giving access only to the push buttons of the switches. This door is provided with a snap catch and polished brass vault handle. Attached to the back of the large door is a plate with an opening which telescopes the switch cover. This plate makes it impossible to reach other parts of the panel through the small door.

Form S2 trims have an outer door which gives access only to the push buttons of the switches. This door is provided with a snap catch only with polished brass vault handle. Back of the outer door is an inner door having an opening which telescopes the switch cover. This door is provided with a Yale lock and gives access to the entire panel.



## CROUSE-HINDS SAFETY PANELS AND CABINETS



Form S1 Wood Trim  
(Type TS1)  
Both Doors Closed



Form S1 Wood Trim  
(Type TS1)  
Small Door Open,  
Giving Access to Switches



Form S3 Steel Trim\*



Form S1, Type BMS1  
Front and Sectional Views



Form S2, Type BMS2  
Front and Sectional Views

Form S2 wood trim (type TS2) has a steel inside door, identical with the inside door of form S2 steel trim.

\*Form S3 steel trim has but one door, which is cut away to allow the switch plate to project slightly through the opening, thus giving immediate access to the push buttons. This construction also allows the use of a box four inches deep, and, if specified, will be furnished on M, N or T trims at a discount of five per cent from list prices for form S1 construction.

## SAFETY PANEL CABINETS

Type letters for safety panel trims are arrived at by taking the type letters M, N and T and adding the form letters S1 or S2 as required.

Cabinets shown here are for surface mounting (type M) design and have the same face measurements as the box. Flush mounting trims (type N) have mats which extend three inches higher and wider than the box.

Type MS1 is a steel trim for surface mounting with form S1 construction.

Type MS2 is a steel trim for surface mounting with form S2 construction.

Type NS1 is a steel trim for flush mounting with form S1 construction.

Type NS2 is a steel trim for flush mounting with form S2 construction.

Type TS1 is a wood trim for flush mounting with form S1 construction.

Type TS2 is a wood trim for flush mounting with form S2 construction.





**Example:** A safety panel with plug fuse receptacles in the branches and mounted in a flush cabinet with a wood trim (B box and T trim) of form S2 construction would be a type DPS panel mounted in a BTS2 cabinet.



# CROUSE-HINDS TYPE EPS SAFETY PANELS

2 TO 2-WIRE, 250 VOLTS

Mains—2-Wire. Branches—Double, with 10-Amp. Push Button Switches for N. E. C. Cartridge Fuses

<div>Panel furnished with main connections at top, if so ordered, without extra charge.</div> 	Panel Only				Box Dimensions Outside in Inches			Panel with Cabinet* List Price				
	No. Cir.	Catalogue Number	List Price	Cap. Mains Amps.	Types S1 and S2			Types BMS1 BNS1	Types BMS2 BNS2	Type BTS1	Type BTS2	
					Wide	High	Deep					
	MAIN LUGS											
	2	71401	\$ 7.70	30	20	15 1/2	5 1/2	\$ 35.20	\$ 37.50	\$ 41.50	\$ 42.70	
	4	71402	12.80	30	20	17 1/2	5 1/2	41.10	43.70	47.10	49.00	
	6	71403	18.00	30	20	21 1/2	5 1/2	48.10	51.50	54.30	56.70	
	8	71404	23.30	30	20	23 1/2	5 1/2	54.10	57.80	60.40	63.00	
	10	71405	28.40	30	20	27 1/2	5 1/2	61.00	65.50	67.50	70.60	
	12	71406	34.10	60	20	31 1/2	5 1/2	68.30	73.40	75.10	78.70	
	14	71407	39.40	60	20	33 1/2	5 1/2	74.40	79.80	81.50	85.30	
	16	71408	44.50	60	20	37 1/2	5 1/2	81.30	87.40	88.90	93.10	
	18	71409	49.90	60	20	39 1/2	5 1/2	89.60	94.00	95.40	99.70	
	20	71410	55.40	60	20	43 1/2	5 1/2	96.80	101.70	103.00	107.50	
	22	71411	61.70	100	20	47 1/2	5 1/2	107.50	115.40	111.80	119.20	
	24	71412	67.20	100	20	49 1/2	5 1/2	114.10	122.30	118.70	126.10	
	26	71413	72.30	100	20	53 1/2	5 1/2	121.40	130.40	127.10	134.70	
	28	71414	77.70	100	20	55 1/2	5 1/2	127.90	137.30	134.30	142.00	
	FUSIBLE MAINS											
	2	71417	\$ 9.90	30	20	17 1/2	5 1/2	\$ 33.20	\$ 40.80	\$ 44.40	\$ 46.00	
	4	71418	14.30	30	20	19 1/2	5 1/2	43.50	48.50	49.60	51.80	
	6	71419	19.50	30	20	23 1/2	5 1/2	50.30	54.00	56.60	59.20	
	8	71420	24.80	30	20	25 1/2	5 1/2	56.50	60.60	62.90	65.70	
	10	71421	29.90	30	20	29 1/2	5 1/2	63.30	68.10	69.90	73.20	
	12	71422	35.90	60	20	35 1/2	5 1/2	71.80	77.60	79.00	83.10	
	14	71423	41.20	60	20	37 1/2	5 1/2	78.00	84.10	85.60	89.80	
	16	71424	46.30	60	20	41 1/2	5 1/2	86.90	91.50	92.90	97.20	
	18	71425	51.70	60	20	43 1/2	5 1/2	93.10	98.00	99.30	103.80	
	20	71426	57.20	60	20	47 1/2	5 1/2	103.00	110.90	107.30	114.70	
	22	71427	64.40	100	20	53 1/2	5 1/2	113.50	122.50	119.20	126.80	
	24	71428	69.80	100	20	55 1/2	5 1/2	120.00	129.40	126.40	134.10	
	26	71429	75.00	100	20	59 1/2	5 1/2	129.80	137.50	134.80	142.80	
	28	71430	80.40	100	20	61 1/2	5 1/2	136.40	144.50	141.80	150.00	
	FUSELESS MAIN SWITCH											
	2	71433	\$13.40	30	20	23 1/2	5 1/2	\$ 44.20	\$ 47.90	\$ 50.50	\$ 53.10	
	4	71434	17.10	30	20	27 1/2	5 1/2	49.70	54.20	56.20	59.30	
	6	71435	22.30	30	20	29 1/2	5 1/2	55.70	60.50	62.30	65.60	
	8	71436	27.60	30	20	33 1/2	5 1/2	62.60	68.00	69.70	73.50	
	10	71437	32.70	30	20	35 1/2	5 1/2	68.60	74.40	75.80	79.90	
	12	71438	39.30	60	20	41 1/2	5 1/2	79.90	84.50	85.90	90.20	
	14	71439	44.60	60	20	43 1/2	5 1/2	86.00	90.90	92.20	96.70	
	16	71440	49.70	60	20	47 1/2	5 1/2	95.50	103.40	99.80	107.20	
	18	71441	55.10	60	20	49 1/2	5 1/2	102.00	110.20	106.60	114.00	
	20	71442	60.60	60	20	53 1/2	5 1/2	109.70	118.70	115.40	123.00	
	22	71443	69.70	100	20	57 1/2	5 1/2	123.40	130.70	127.80	135.70	
	24	71444	75.10	100	20	61 1/2	5 1/2	131.10	139.20	136.50	144.70	
	26	71445	80.30	100	20	63 1/2	5 1/2	137.50	146.10	143.60	152.10	
	28	71446	85.70	100	20	67 1/2	5 1/2	147.00	154.50	152.90	161.40	
	FUSIBLE MAIN SWITCH											
	2	71449	\$14.90	30	20	23 1/2	5 1/2	\$ 45.70	\$ 49.40	\$ 52.00	\$ 54.60	
	4	71450	18.50	30	20	27 1/2	5 1/2	51.10	55.60	57.00	60.70	
	6	71451	24.00	30	20	29 1/2	5 1/2	57.40	62.20	64.00	67.30	
	8	71452	29.00	30	20	33 1/2	5 1/2	64.00	69.40	71.10	74.90	
	10	71453	34.10	30	20	35 1/2	5 1/2	70.00	75.80	77.20	81.30	
	12	71454	40.70	60	20	41 1/2	5 1/2	81.30	85.90	87.30	91.60	
	14	71455	46.00	60	20	43 1/2	5 1/2	87.40	92.30	93.60	98.10	
	16	71456	51.10	60	20	47 1/2	5 1/2	96.90	104.80	101.20	108.60	
	18	71457	56.50	60	20	49 1/2	5 1/2	103.40	111.60	108.00	115.40	
	20	71458	62.00	60	20	53 1/2	5 1/2	111.10	120.10	116.80	124.40	
	22	71459	72.90	100	20	61 1/2	5 1/2	128.90	137.00	134.30	142.50	
	24	71460	78.30	100	20	63 1/2	5 1/2	135.50	144.10	141.60	150.10	
	26	71461	83.50	100	20	67 1/2	5 1/2	143.00	152.30	150.70	159.20	
	28	71462	88.90	100	20	69 1/2	5 1/2	149.60	161.30	158.20	166.90	

\*Prices under heading "Panel with Cabinet" include panel, slate frame, box and trim complete. Prices for above panels with through feeds or meter loops will be furnished upon request. Prices do not include fuses. Order by catalogue number.



## CROUSE-HINDS TYPE EPS SAFETY PANELS

### 2 TO 2-WIRE, 125 VOLTS

Mains—2-Wire. Branches—Double, with 10-Amp. Push Button Switches for N. E. C. Cartridge Fuses

Panel Only					Box Dimensions Outside in Inches				Panel with Cabinet* List Price			
					Types S1 and S2		Type S1	Type S2	Types BMS1 BMS2	Types BMS2 BMS2	Type BTS1	Type BTS2
No. Cir.	Catalogue Number	List Price	Cap. Mains Amps.		Wide	High	Deep	Deep				
<b>MAIN LUGS</b>												
2	71201	\$ 7.50	30	20	15 1/2	5 1/2	5 1/2		\$ 35.00	\$ 37.30	\$ 40.80	\$ 42.50
4	71202	12.50	30	20	17 1/2	5 1/2	5 1/2		40.80	43.40	46.80	48.70
6	71203	17.60	60	20	21 1/2	5 1/2	5 1/2		47.70	51.10	53.90	56.20
8	71204	22.80	60	20	25 1/2	5 1/2	5 1/2		54.50	58.00	60.90	63.70
10	71205	27.70	60	20	27 1/2	5 1/2	5 1/2		60.30	64.80	66.80	69.90
12	71206	33.30	100	20	31 1/2	5 1/2	5 1/2		67.50	72.60	74.30	77.90
14	71207	38.90	100	20	35 1/2	5 1/2	5 1/2		74.80	80.60	82.00	86.10
16	71208	43.90	100	20	37 1/2	5 1/2	5 1/2		80.70	86.80	88.30	92.50
18	71209	50.60	200	20	41 1/2	5 1/2	5 1/2		91.20	95.80	97.20	101.50
20	71210	55.80	200	20	43 1/2	5 1/2	5 1/2		97.20	102.10	103.40	107.90
22	71211	61.10	200	20	47 1/2	5 1/2	5 1/2		106.90	114.80	111.20	118.60
24	71212	66.20	200	20	49 1/2	5 1/2	5 1/2		113.10	121.30	117.70	125.10
26	71213	71.50	200	20	53 1/2	5 1/2	5 1/2		120.60	129.60	126.30	133.90
28	71214	76.70	200	20	55 1/2	5 1/2	5 1/2		126.90	136.30	133.30	141.00
<b>FUSIBLE MAINS</b>												
2	71217	\$ 9.00	30	20	17 1/2	5 1/2	5 1/2		\$ 37.30	\$ 39.90	\$ 43.30	\$ 45.20
4	71218	14.00	30	20	19 1/2	5 1/2	5 1/2		43.20	46.20	49.30	51.50
6	71219	19.40	60	20	25 1/2	5 1/2	5 1/2		51.10	55.20	57.50	60.30
8	71220	24.60	60	20	29 1/2	5 1/2	5 1/2		58.00	62.80	64.60	67.90
10	71221	29.50	60	20	31 1/2	5 1/2	5 1/2		64.00	68.80	70.50	74.10
12	71222	36.00	100	20	37 1/2	5 1/2	5 1/2		72.80	78.90	79.90	84.60
14	71223	41.60	100	20	41 1/2	5 1/2	5 1/2		82.20	86.80	88.20	92.50
16	71224	46.60	100	20	43 1/2	5 1/2	5 1/2		88.00	92.90	94.20	98.70
18	71225	54.90	200	20	47 1/2	5 1/2	5 1/2		100.70	108.60	105.00	112.40
20	71226	60.10	200	20	51 1/2	5 1/2	5 1/2		108.10	116.90	113.10	120.80
22	71227	65.40	200	20	53 1/2	5 1/2	5 1/2		114.50	123.50	120.20	127.80
24	71228	70.50	200	20	57 1/2	5 1/2	5 1/2		124.20	131.50	128.60	136.50
26	71229	75.80	200	20	59 1/2	5 1/2	5 1/2		130.60	138.30	135.60	143.60
28	71230	81.00	200	20	63 1/2	5 1/2	5 1/2		138.20	146.80	144.30	152.80
<b>FUSELESS MAIN SWITCH</b>												
2	71233	\$11.80	20	20	23 1/2	5 1/2	5 1/2		\$ 42.60	\$ 46.30	\$ 48.90	\$ 51.50
4	71234	16.80	30	20	25 1/2	5 1/2	5 1/2		48.50	52.60	54.90	57.70
6	71235	22.80	60	20	31 1/2	5 1/2	5 1/2		57.00	62.10	63.80	67.40
8	71236	28.00	60	20	33 1/2	5 1/2	5 1/2		63.00	68.40	70.10	73.90
10	71237	32.90	60	20	37 1/2	5 1/2	5 1/2		69.70	75.80	77.30	81.50
12	71238	41.30	100	20	41 1/2	5 1/2	5 1/2		81.90	86.50	87.90	92.20
14	71239	46.90	100	20	45 1/2	5 1/2	5 1/2		89.30	94.40	95.70	100.30
16	71240	51.90	100	20	47 1/2	5 1/2	5 1/2		97.70	105.60	102.00	108.90
18	71241	61.80	200	20	55 1/2	6 1/2	8 1/2		114.10	127.20	120.50	131.90
20	71242	67.00	200	20	57 1/2	6 1/2	8 1/2		123.00	134.10	127.40	139.10
22	71243	72.30	200	20	61 1/2	6 1/2	8 1/2		130.80	142.80	136.20	148.30
24	71244	77.40	200	20	63 1/2	6 1/2	8 1/2		137.20	149.70	143.30	155.70
26	71245	82.70	200	20	67 1/2	6 1/2	8 1/2		144.90	158.40	152.60	165.30
28	71246	87.90	200	20	69 1/2	6 1/2	8 1/2		151.30	165.90	159.90	173.10
<b>FUSIBLE MAIN SWITCH</b>												
2	71249	\$13.20	30	20	23 1/2	5 1/2	5 1/2		\$ 44.00	\$ 47.70	\$ 50.30	\$ 52.90
4	71250	18.20	30	20	25 1/2	5 1/2	5 1/2		49.90	54.00	56.30	59.10
6	71251	24.20	60	20	31 1/2	5 1/2	5 1/2		58.40	63.50	65.20	68.80
8	71252	29.40	60	20	33 1/2	5 1/2	5 1/2		64.40	69.80	71.50	75.30
10	71253	34.30	60	20	37 1/2	5 1/2	5 1/2		71.10	77.20	78.70	82.90
12	71254	44.50	100	20	45 1/2	5 1/2	5 1/2		86.90	92.00	93.30	97.90
14	71255	50.10	100	20	47 1/2	5 1/2	5 1/2		95.90	103.80	100.20	107.00
16	71256	55.10	100	20	51 1/2	5 1/2	5 1/2		103.10	111.90	107.30	115.80
18	71257	66.30	200	20	57 1/2	6 1/2	8 1/2		122.30	133.40	126.70	138.40
20	71258	71.50	200	20	59 1/2	6 1/2	8 1/2		128.80	140.20	133.80	145.60
22	71259	76.80	200	20	63 1/2	6 1/2	8 1/2		136.60	149.10	142.70	155.10
24	71260	81.90	200	20	65 1/2	6 1/2	8 1/2		142.80	155.90	149.80	162.40
26	71261	87.20	200	20	69 1/2	6 1/2	8 1/2		150.60	165.20	159.20	172.40
28	71262	92.40	200	20	71 1/2	6 1/2	8 1/2		156.90	173.00	166.40	180.50



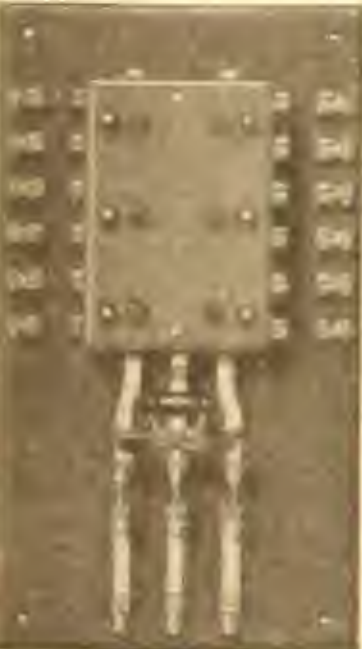
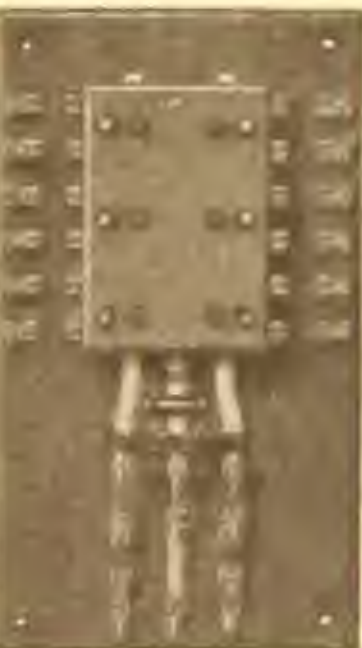
\*Prices under heading "Panel with Cabinet" include panel, slate frame, box and trim complete. Prices for above panels with through feeds or meter loops will be furnished upon request. Prices do not include fuses. Order by catalogue number.



# CROUSE-HINDS TYPE EPS SAFETY PANELS

## 3 TO 2-WIRE, 125 VOLTS

Mains—3-Wire, Branches—Double, with 10-Amp. Push Button Switches for N. E. C. Cartridge Fuses

Panel furnished with main connections at top, if so ordered, without extra charge	Panel Only				Box Dimensions Outside in Inches			Panel with Cabinet* List Price			
	No. Cir.	Catalogue Number	List Price	Cap. Mains Amps.	Types S1 and S2			Types BMS1 BNS1	Types BMS2 BNS2	Type BTS1	Type BTS2
					Wide	High	Deep				
	MAIN LUGS										
	2	71301	\$ 7.00	30	20	15 1/2	5 1/2	\$ 34.50	\$ 36.80	\$ 40.30	\$ 42.00
	4	71302	12.30	30	20	17 1/2	5 1/2	40.60	43.20	46.60	48.50
	6	71303	18.20	30	20	21 1/2	5 1/2	48.30	51.70	54.50	56.90
	8	71304	23.70	30	20	23 1/2	5 1/2	54.50	58.20	60.80	63.40
	10	71305	29.00	30	20	27 1/2	5 1/2	61.60	66.10	68.10	71.20
	12	71306	34.70	60	20	31 1/2	5 1/2	68.90	74.00	75.70	79.30
	14	71307	39.90	60	20	33 1/2	5 1/2	74.90	80.30	82.00	85.80
	16	71308	45.30	60	20	37 1/2	5 1/2	82.10	88.20	89.70	93.90
	18	71309	50.50	60	20	39 1/2	5 1/2	90.20	94.60	96.00	100.30
	20	71310	55.90	60	20	43 1/2	5 1/2	97.30	102.20	103.50	108.00
	22	71311	62.60	100	20	47 1/2	5 1/2	108.40	116.30	112.70	120.10
	24	71312	68.00	100	20	49 1/2	5 1/2	114.90	123.10	119.50	126.90
	26	71313	73.30	100	20	53 1/2	5 1/2	122.40	131.40	128.10	135.70
28	71314	78.50	100	20	55 1/2	5 1/2	128.70	138.10	135.10	142.80	
	FUSIBLE MAINS										
	2	71317	\$ 9.20	30	20	17 1/2	5 1/2	\$ 37.50	\$ 40.10	\$ 43.50	\$ 45.40
	4	71318	14.60	30	20	19 1/2	5 1/2	43.80	46.80	49.90	52.10
	6	71319	19.50	30	20	23 1/2	5 1/2	50.30	54.00	56.60	59.20
	8	71320	26.00	30	20	25 1/2	5 1/2	57.70	61.80	64.10	66.90
	10	71321	31.30	30	20	29 1/2	5 1/2	64.70	69.50	71.30	74.60
	12	71322	37.40	60	20	35 1/2	5 1/2	73.30	79.10	80.50	84.60
	14	71323	42.60	60	20	37 1/2	5 1/2	79.40	85.50	87.00	91.20
	16	71324	48.00	60	20	41 1/2	5 1/2	88.60	93.20	94.60	98.90
	18	71325	53.20	60	20	43 1/2	5 1/2	94.60	99.50	100.80	105.30
	20	71326	58.60	60	20	47 1/2	5 1/2	104.40	112.30	108.70	116.10
	22	71327	66.70	100	20	53 1/2	5 1/2	115.80	124.80	121.50	129.10
	24	71328	72.10	100	20	55 1/2	5 1/2	122.30	131.70	128.70	136.40
	26	71329	77.40	100	20	59 1/2	5 1/2	132.20	139.90	137.20	145.20
28	71330	82.60	100	20	61 1/2	5 1/2	138.60	146.70	144.00	152.20	
	FUSELESS MAIN SWITCH										
	2	71333	\$12.80	30	20	23 1/2	5 1/2	\$ 43.60	\$ 47.30	\$ 49.90	\$ 53.20
	4	71334	18.80	30	20	25 1/2	5 1/2	50.50	54.60	56.90	59.70
	6	71335	24.70	30	20	29 1/2	5 1/2	58.10	62.90	64.70	68.00
	8	71336	30.20	30	20	31 1/2	5 1/2	64.40	69.50	71.20	74.80
	10	71337	35.50	30	20	35 1/2	5 1/2	71.40	77.70	78.60	82.70
	12	71338	42.50	60	20	39 1/2	5 1/2	82.20	86.60	88.00	92.30
	14	71339	47.70	60	20	43 1/2	5 1/2	89.10	94.00	95.30	99.80
	16	71340	53.10	60	20	45 1/2	5 1/2	95.50	100.60	101.90	106.50
	18	71341	58.30	60	20	49 1/2	5 1/2	105.20	113.40	109.80	117.20
	20	71342	63.70	60	20	51 1/2	5 1/2	111.70	120.50	116.70	124.40
	22	71343	74.60	100	20	57 1/2	5 1/2	128.30	135.60	132.70	140.60
	24	71344	80.00	100	20	59 1/2	5 1/2	136.00	142.40	141.40	147.80
	26	71345	85.30	100	20	63 1/2	5 1/2	142.50	151.10	148.60	157.10
28	71346	90.50	100	20	65 1/2	5 1/2	150.00	157.80	157.70	164.30	
	FUSIBLE MAIN SWITCH										
	2	71349	\$15.40	30	20	23 1/2	5 1/2	\$ 46.20	\$ 49.90	\$ 52.50	\$ 55.10
	4	71350	20.90	30	20	25 1/2	5 1/2	52.60	56.70	59.00	61.80
	6	71351	26.80	30	20	29 1/2	5 1/2	60.20	65.00	66.80	70.10
	8	71352	32.30	30	20	31 1/2	5 1/2	66.50	71.60	73.30	76.90
	10	71353	37.60	30	20	35 1/2	5 1/2	73.50	79.30	80.70	84.70
	12	71354	44.60	60	20	39 1/2	5 1/2	84.30	88.70	90.10	94.40
	14	71355	49.80	60	20	41 1/2	5 1/2	91.20	96.10	97.40	101.90
	16	71356	55.20	60	20	45 1/2	5 1/2	97.60	102.70	104.00	108.60
	18	71357	61.40	60	20	49 1/2	5 1/2	108.30	116.50	112.90	120.30
	20	71358	65.80	60	20	51 1/2	5 1/2	113.80	122.60	118.80	126.50
	22	71359	74.90	100	20	59 1/2	5 1/2	129.70	137.40	134.70	142.70
	24	71360	84.80	100	20	63 1/2	5 1/2	142.00	150.60	148.10	156.60
	26	71361	90.10	100	20	65 1/2	5 1/2	148.50	157.40	155.50	163.90
28	71362	95.30	100	20	69 1/2	5 1/2	156.00	166.10	164.60	173.30	

\*Prices under heading "Panel with Cabinet" include panel, slate frame, box and trim complete. Prices for above panels with through feeds or meter loops will be furnished upon request. Prices do not include fuses. Order by catalogue number.



## CROUSE-HINDS TYPE DPS SAFETY PANELS

2 TO 2-WIRE, 125 VOLTS

Mains—2-Wire. Branches—Double, with 10-Ampere Push Button Switches for Edison Plug Fuses

Panels furnished with main connections at top, if so ordered, without extra charge

Panel Only				Box Dimensions Outside in Inches				Panel with Cabinet* List Price			
No. Cir.	Catalogue Number	List Price	Cap. Mains Amps.	Types S1 and S2		Type S1	Type S2	Types BMS1 BMS2	Types BMS2 BMS2	Type BTS1	Type BTS2
				Wide	High	Deep	Deep				
MAIN LUGS											
2	71001	\$ 7.50	30	20	15 1/2	5 1/2	5 1/2	\$ 35.00	\$ 37.30	\$ 40.80	\$ 42.50
4	71002	12.50	30	20	17 1/2	5 1/2	5 1/2	40.80	43.40	46.80	48.70
6	71003	17.60	60	20	21 1/2	5 1/2	5 1/2	47.70	51.10	53.90	56.30
8	71004	22.80	60	20	25 1/2	5 1/2	5 1/2	54.50	58.60	60.90	63.70
10	71005	27.70	60	20	27 1/2	5 1/2	5 1/2	60.30	64.80	66.80	69.90
12	71006	33.30	100	20	31 1/2	5 1/2	5 1/2	67.50	72.60	74.30	77.90
14	71007	38.90	100	20	35 1/2	5 1/2	5 1/2	74.80	80.60	82.00	86.10
16	71008	43.90	100	20	37 1/2	5 1/2	5 1/2	80.70	86.80	88.30	92.50
18	71009	50.60	200	20	41 1/2	5 1/2	5 1/2	91.20	95.80	97.20	101.70
20	71010	55.80	200	20	43 1/2	5 1/2	5 1/2	97.20	102.10	103.40	107.80
22	71011	61.10	200	20	47 1/2	5 1/2	5 1/2	106.90	114.80	111.20	118.60
24	71012	66.20	200	20	49 1/2	5 1/2	5 1/2	113.10	121.30	117.70	125.10
26	71013	71.50	200	20	53 1/2	5 1/2	5 1/2	120.60	129.60	126.30	133.90
28	71014	76.70	200	20	55 1/2	5 1/2	5 1/2	126.90	136.30	133.30	141.00

FUSIBLE MAINS											
2	71017	\$ 9.00	30	20	17 1/2	5 1/2	5 1/2	\$ 37.30	\$ 39.90	\$ 43.30	\$ 45.20
4	71018	14.00	30	20	19 1/2	5 1/2	5 1/2	43.20	46.20	49.30	51.50
6	71019	19.40	60	20	25 1/2	5 1/2	5 1/2	51.10	55.20	57.50	60.30
8	71020	24.60	60	20	29 1/2	5 1/2	5 1/2	58.00	62.80	64.60	67.90
10	71021	29.50	60	20	31 1/2	5 1/2	5 1/2	64.00	68.80	70.50	74.10
12	71022	36.00	100	20	37 1/2	5 1/2	5 1/2	72.80	78.90	79.90	84.60
14	71023	41.60	100	20	41 1/2	5 1/2	5 1/2	82.20	86.80	88.20	92.50
16	71024	46.60	100	20	43 1/2	5 1/2	5 1/2	88.00	92.90	94.20	98.70
18	71025	54.90	200	20	47 1/2	5 1/2	5 1/2	100.70	108.60	105.00	112.40
20	71026	60.10	200	20	51 1/2	5 1/2	5 1/2	108.10	116.90	113.10	120.80
22	71027	65.40	200	20	53 1/2	5 1/2	5 1/2	114.50	123.50	120.20	127.80
24	71028	70.50	200	20	57 1/2	5 1/2	5 1/2	124.20	131.50	128.60	136.50
26	71029	75.80	200	20	59 1/2	5 1/2	5 1/2	130.60	138.30	135.60	143.60
28	71030	81.00	200	20	63 1/2	5 1/2	5 1/2	138.20	146.80	144.30	152.80

FUSELESS MAIN SWITCH											
2	71033	\$11.80	30	20	23 1/2	5 1/2	5 1/2	\$ 42.60	\$ 46.30	\$ 48.90	\$ 51.90
4	71034	16.80	30	20	25 1/2	5 1/2	5 1/2	48.50	52.60	54.90	57.70
6	71035	22.80	60	20	31 1/2	5 1/2	5 1/2	57.00	62.10	63.80	67.40
8	71036	28.00	60	20	33 1/2	5 1/2	5 1/2	63.00	68.40	70.10	73.90
10	71037	32.90	60	20	37 1/2	5 1/2	5 1/2	69.70	75.80	77.30	81.50
12	71038	41.30	100	20	41 1/2	5 1/2	5 1/2	81.90	86.50	87.90	92.20
14	71039	46.90	100	20	45 1/2	5 1/2	5 1/2	89.30	94.40	95.70	100.30
16	71040	51.90	100	20	47 1/2	5 1/2	5 1/2	97.70	105.60	102.00	108.90
18	71041	61.80	200	20	55 1/2	6 1/2	8 1/2	114.10	127.20	120.50	131.90
20	71042	67.00	200	20	57 1/2	6 1/2	8 1/2	123.00	134.10	127.40	139.10
22	71043	72.30	200	20	61 1/2	6 1/2	8 1/2	130.80	142.80	136.20	148.30
24	71044	77.40	200	20	63 1/2	6 1/2	8 1/2	137.20	149.70	143.30	155.70
26	71045	82.70	200	20	67 1/2	6 1/2	8 1/2	144.90	158.40	152.60	165.30
28	71046	87.90	200	20	69 1/2	6 1/2	8 1/2	151.30	165.90	159.90	173.10

FUSIBLE MAIN SWITCH											
2	71049	\$13.20	30	20	23 1/2	5 1/2	5 1/2	\$ 44.00	\$ 47.70	\$ 50.30	\$ 52.90
4	71050	18.20	30	20	25 1/2	5 1/2	5 1/2	49.90	54.00	56.30	59.10
6	71051	24.20	60	20	31 1/2	5 1/2	5 1/2	58.40	63.50	65.20	68.80
8	71052	29.40	60	20	33 1/2	5 1/2	5 1/2	64.40	69.80	71.50	75.30
10	71053	34.30	60	20	37 1/2	5 1/2	5 1/2	71.10	77.20	78.70	82.90
12	71054	44.50	100	20	45 1/2	5 1/2	5 1/2	86.90	92.00	93.30	97.90
14	71055	50.10	100	20	47 1/2	5 1/2	5 1/2	95.90	103.80	100.20	107.00
16	71056	55.10	100	20	51 1/2	5 1/2	5 1/2	103.10	111.90	107.30	115.80
18	71057	66.30	200	20	57 1/2	6 1/2	8 1/2	122.30	133.40	126.70	138.40
20	71058	71.50	200	20	59 1/2	6 1/2	8 1/2	128.80	140.20	133.80	145.60
22	71059	76.80	200	20	63 1/2	6 1/2	8 1/2	136.60	149.10	142.70	155.10
24	71060	81.90	200	20	65 1/2	6 1/2	8 1/2	142.80	155.90	149.80	162.40
26	71061	87.20	200	20	69 1/2	6 1/2	8 1/2	150.60	165.20	159.20	172.40
28	71062	92.40	200	20	71 1/2	6 1/2	8 1/2	156.90	173.00	166.40	180.80





\*Prices under heading "Panel with Cabinet" include panel, slate frame, box and trim complete. Prices for above panels with through feeds or meter loops will be furnished upon request. Prices do not include fuses. Order by catalogue number.



# CROUSE-HINDS TYPE DPS SAFETY PANELS

3 TO 2-WIRE, 125 VOLTS

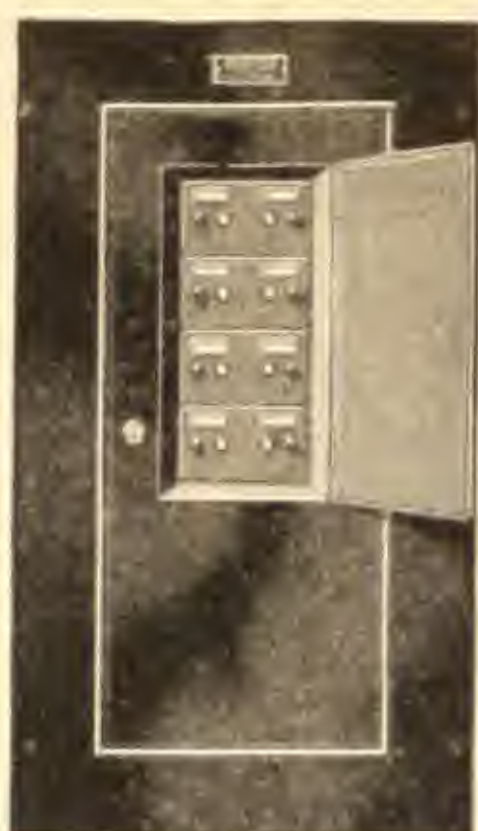
Mains—3-Wire. Branches—Double, with 10-Ampere Push Button Switches for Edison Plug Fuses

Panel furnished with main connections at top, if so ordered, without extra charge	Panel Only				Box Dimensions Outside in Inches			Panel with Cabinet* List Price			
	No. Cat.	Catalogue Number	List Price	Cap. Mains Amps.	Types S1 and S2			Types RMS1 RMS2	Types RMS2 RMS2	Type BTS1	Type BTS2
					Wide	High	Deep				
	MAIN LUGS										
	2	71101	\$ 7.00	30	20	15 1/2	5 1/2	\$ 34.50	\$ 36.80	\$ 40.30	\$ 42.00
	4	71102	12.30	30	20	17 1/2	5 1/2	40.60	43.20	46.60	48.50
	6	71103	18.20	30	20	21 1/2	5 1/2	48.30	51.70	54.50	56.90
	8	71104	23.70	30	20	23 1/2	5 1/2	54.50	58.20	60.80	63.40
	10	71105	29.00	30	20	27 1/2	5 1/2	61.60	66.10	68.10	71.20
	12	71106	34.70	60	20	31 1/2	5 1/2	68.90	74.00	75.70	79.30
	14	71107	39.90	60	20	33 1/2	5 1/2	74.90	80.30	82.00	85.80
	16	71108	45.30	60	20	37 1/2	5 1/2	82.10	88.20	89.70	93.90
	18	71109	50.50	60	20	39 1/2	5 1/2	90.20	94.60	96.00	100.30
	20	71110	55.90	60	20	43 1/2	5 1/2	97.30	102.20	103.50	108.00
	22	71111	62.60	100	20	47 1/2	5 1/2	108.40	116.30	112.70	120.10
	24	71112	68.00	100	20	49 1/2	5 1/2	114.90	123.10	119.50	126.90
	26	71113	73.30	100	20	53 1/2	5 1/2	122.40	131.40	128.10	135.70
28	71114	78.50	100	20	55 1/2	5 1/2	128.70	138.10	135.10	142.50	
	FUSIBLE MAINS										
	2	71117	\$ 9.20	30	20	17 1/2	5 1/2	\$ 37.50	\$ 40.10	\$ 43.50	\$ 45.40
	4	71118	14.00	30	20	19 1/2	5 1/2	43.80	46.80	49.90	52.10
	6	71119	19.50	30	20	23 1/2	5 1/2	50.30	54.00	56.60	59.20
	8	71120	26.00	30	20	25 1/2	5 1/2	57.70	61.80	64.10	66.90
	10	71121	31.30	30	20	29 1/2	5 1/2	64.70	69.50	71.30	74.60
	12	71122	37.40	60	20	35 1/2	5 1/2	73.30	79.10	80.50	84.60
	14	71123	42.60	60	20	37 1/2	5 1/2	79.40	85.50	87.00	91.20
	16	71124	48.00	60	20	41 1/2	5 1/2	88.60	93.20	94.60	98.90
	18	71125	53.20	60	20	43 1/2	5 1/2	94.60	99.50	100.80	105.30
	20	71126	58.60	60	20	47 1/2	5 1/2	104.40	112.30	108.70	116.10
	22	71127	66.70	100	20	53 1/2	5 1/2	115.80	124.80	121.50	129.10
	24	71128	72.10	100	20	55 1/2	5 1/2	122.30	131.70	128.70	136.40
	26	71129	77.40	100	20	59 1/2	5 1/2	132.20	139.90	137.20	145.20
28	71130	82.60	100	20	61 1/2	5 1/2	138.60	146.70	144.00	152.20	
	FUSELESS MAIN SWITCH										
	2	71133	\$12.80	30	20	23 1/2	5 1/2	\$ 43.60	\$ 47.30	\$ 49.90	\$ 53.20
	4	71134	18.80	30	20	25 1/2	5 1/2	50.50	54.60	56.90	59.70
	6	71135	24.70	30	20	29 1/2	5 1/2	58.10	62.90	64.70	68.00
	8	71136	30.20	30	20	31 1/2	5 1/2	64.40	69.50	71.20	74.80
	10	71137	35.50	30	20	35 1/2	5 1/2	71.40	77.70	78.60	82.70
	12	71138	42.50	60	20	39 1/2	5 1/2	82.20	86.60	88.00	92.30
	14	71139	47.70	60	20	43 1/2	5 1/2	89.10	94.00	95.30	99.80
	16	71140	53.10	60	20	45 1/2	5 1/2	95.50	100.60	101.90	106.50
	18	71141	58.30	60	20	49 1/2	5 1/2	105.20	113.40	109.80	117.20
	20	71142	63.70	60	20	51 1/2	5 1/2	111.70	120.50	116.70	124.40
	22	71143	74.60	100	20	57 1/2	5 1/2	128.30	135.60	132.70	140.60
	24	71144	80.00	100	20	59 1/2	5 1/2	136.00	142.40	141.40	147.80
	26	71145	85.30	100	20	63 1/2	5 1/2	142.50	151.10	148.60	157.10
28	71146	90.50	100	20	65 1/2	5 1/2	150.00	157.80	157.70	164.30	
	FUSIBLE MAIN SWITCH										
	2	71149	\$15.40	30	20	23 1/2	5 1/2	\$ 46.20	\$ 49.90	\$ 52.50	\$ 55.10
	4	71150	20.90	30	20	25 1/2	5 1/2	52.60	56.70	59.00	61.80
	6	71151	26.80	30	20	29 1/2	5 1/2	60.20	65.00	66.80	70.10
	8	71152	32.30	30	20	31 1/2	5 1/2	66.50	71.60	73.30	76.90
	10	71153	37.60	30	20	35 1/2	5 1/2	73.50	79.30	80.70	84.70
	12	71154	44.60	60	20	39 1/2	5 1/2	84.30	88.70	90.10	94.40
	14	71155	49.80	60	20	41 1/2	5 1/2	91.20	96.10	97.40	101.90
	16	71156	55.20	60	20	45 1/2	5 1/2	97.60	102.70	104.00	108.60
	18	71157	61.40	60	20	49 1/2	5 1/2	108.30	116.50	112.90	120.30
	20	71158	66.80	60	20	51 1/2	5 1/2	113.80	122.60	118.80	126.50
	22	71159	74.90	100	20	59 1/2	5 1/2	129.70	137.40	134.70	142.70
	24	71160	84.80	100	20	63 1/2	5 1/2	142.00	150.60	148.10	156.60
	26	71161	90.10	100	20	65 1/2	5 1/2	148.50	157.40	155.50	163.90
28	71162	95.30	100	20	69 1/2	5 1/2	156.00	166.10	164.60	173.30	

\*Prices under heading "Panel with Cabinet" include panel, slate frame, box and trim complete. Prices for above panels with through feeds or meter loops will be furnished upon request. Prices do not include fuses. Order by catalogue number



## BENJAMIN-STARRETT PANEL BOARDS



Dead Front Standardized Panel  
with Cabinet, 4 to 30 Circuits



Panel Cutout  
4 to 10 Circuits



Stock Panel with Cabinet  
4 to 10 Circuits



Dead Front Residence Panel with  
Cabinet, 2 to 10 Circuits

### GENERAL SPECIFICATIONS

Benjamin-Starrett Panel Boards and Cabinets are divided into classes as follows:

Standardized Panels—Dead Front and Open Front.

Stock Panels.

Residence Panels—Dead Front and Open Front.

Panel Cutouts.

Standardization is the principle underlying the design and construction of the entire range of Benjamin-Starrett Panel Boards. It means that panel boards and cabinets are now capable of being ordered and shipped as ordinary staple electrical merchandise.

In securing this standardization of panel boards and cabinets nothing of an electrical or mechanical advantage that might be secured through the most rigid specifications is sacrificed. On the other hand, many advantages, due to regularity of design, precision in manufacture and accuracy in assembly are gained. Benjamin-Starrett Panel Boards are factory made and assembled from start to finish, resulting in less delay in shipping, better appearance, lighter weight, easier handling and lower labor cost in installation.

In ordering from the listings on the following pages it is necessary to specify only the Mfrs. numbers on your order unless larger sizes or other arrangements are desired.

Catalogue space necessarily limits panel board and cabinet listings to such sizes and styles as ordinary demand requires, but standardized panels and cabinets are not limited as to size or arrangement.

When ordering or requesting information on panels or cabinets with arrangement other than as herein listed, specifications should be furnished complete and accompanied by a sketch. Specifications should cover all details as given in the general and column headings of pages on which similar panels are listed.

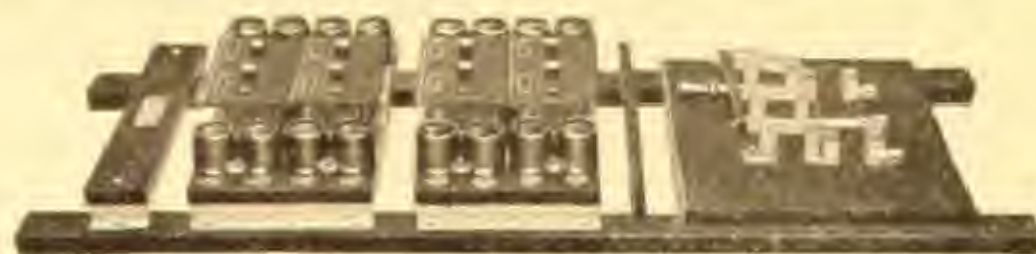


## BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS



Standardized  
Panel  
Front View

Standardized  
Panel  
Rear View



View Showing Partial Assembly of a  
Standardized Panel

Standardized panels are constructed from standard panel units which are made under modern factory methods, i. e., with efficient machinery and on a production basis. The finished article has all the neatness, accuracy of measurement and finished appearance characteristic of the machine made product.

Panels with cabinets are assembled at the factory immediately upon receipt of order so that delays formerly incident to filling orders for panel equipment have been done away with.

The dead front types listed on the following pages deserve special consideration. They are unusually simple and neat in design and easy to install and operate.

### Specifications

**RANGE.**—4 to 30 circuits as listed—a greater number possible when required.

**BASES.**—Molded, strong, fireproof, of high dielectric strength and unaffected by heat, moisture, oils or acids. Finish, dead black.

**BUS BARS.**—Hard drawn copper—capacity, 6 amperes per branch for 2-wire panels; 3 amperes per branch for 3-wire panels. Mounted on back of panel.

**CAPACITY.**—Current carrying parts based on maximum current density of 1,000 amperes per square inch of section.

**BRANCHES.**—Have standard capacity of 660 watts each and equipped with N.E.C. fuse clips or Edison Plug Fuse Receptacles and Switches as listed.

**BRANCH SWITCHES.**—Push and tumbler switches have 20-ampere capacity and knife switches 30-ampere capacity.

**BARRIERS.**—Same material as bases—slotted for wires. Great simplicity in installation or removal.

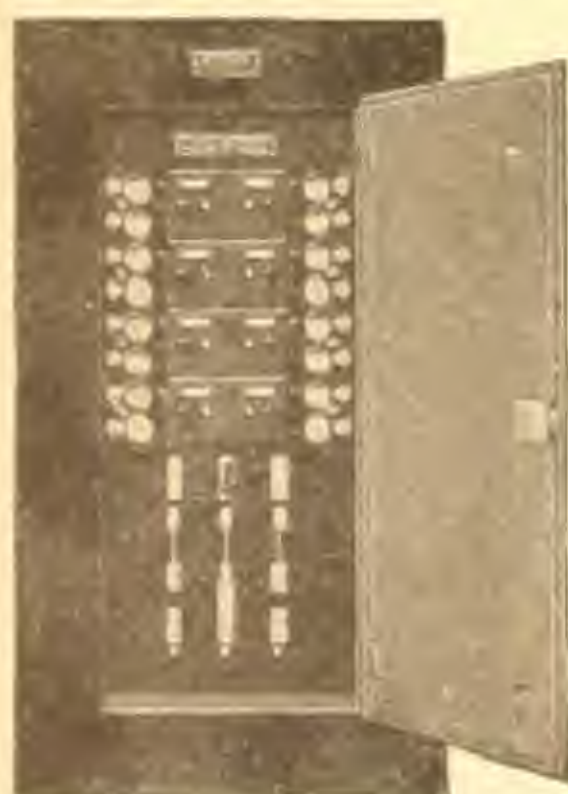
**CABINETS.**—Made of sheet steel, thickness required by N.E.C. specifications. Finish black.

**KNOCKOUTS.**— $\frac{1}{2}$ -inch knockouts at top; one for each circuit. One half the number at bottom. No charge for extra drilling if drilling sketch accompanies the order.

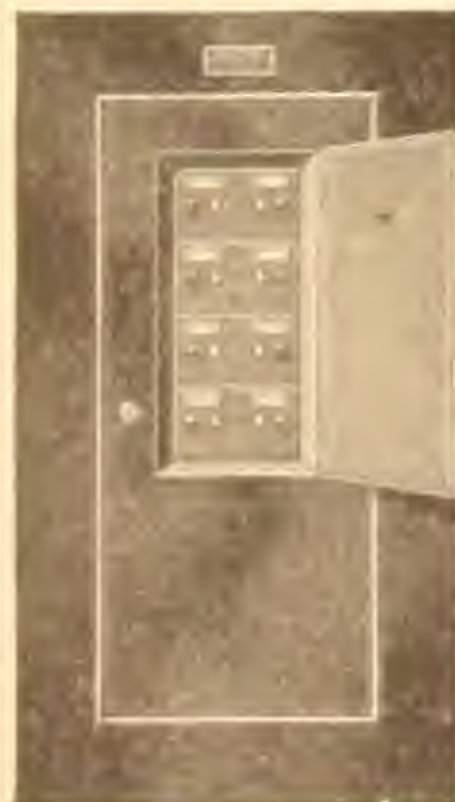
**FRONTS.**—Made of sheet steel, thickness, N. E. C. specifications. Flush type cabinets have mat extending beyond box all around. Finish black.

**WEIGHT AND SIZE.**—These panel boards weigh less than 50 per cent of any corresponding size and type of slate panel board. In square inches of space occupied they are, circuit for circuit, the smallest panel boards made.

**NUMBERING.**—Each branch circuit has either a number plate or card holder.



Open Front  
Standardized Panel  
in Flush Cabinet



Dead Front  
Standardized Panel  
in Flush Cabinet



## BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

TYPE DCP—DEAD FRONT PANELS WITH CABINETS

Mains—2-wire, 125 Volts.

Branches—2-wire, with 20-ampere Push Switches Arranged for Cartridge Fuses.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings



No. of Circuits	Capacity Main Connect Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Approx. Ship Wt. Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each				
WITH MAIN LUGS ONLY									
4	30	84403	\$34.60	84433	\$34.60	18	17½	5¼	89
6	60	84405	41.80	84435	41.80	18	20½	5¼	95
8	60	84407	49.50	84437	49.50	18	23½	5¼	104
10	60	84409	56.00	84439	56.00	18	26½	5¼	110
12	100	84411	64.10	84441	64.10	18	29½	5¼	125
14	100	84413	72.00	84443	72.00	18	32½	5¼	140
16	100	84415	78.60	84445	78.60	18	35½	5¼	152
18	200	84417	87.60	84447	87.60	18	38½	5¼	165
20	200	84419	94.50	84449	94.50	18	41½	5¼	182
22	200	84421	104.80	84451	104.80	18	44½	5¼	202
24	200	84423	111.50	84453	111.50	18	47½	5¼	215
26	200	84425	119.40	84455	119.40	18	50½	5¼	227
28	200	84427	126.50	84457	126.50	18	53½	5¼	241
30	200	84429	134.10	84459	134.10	18	56½	5¼	259

WITH FUSIBLE MAINS									
4	30	85403	37.90	85433	37.90	18	20	5 1/4	89
6	60	85405	46.10	85435	46.10	18	24	5 1/4	106
8	60	85407	52.90	85437	52.90	18	27	5 1/4	118
10	60	85409	60.30	85439	60.30	18	30	5 1/4	130
12	100	85411	71.00	85441	71.00	18	37	5 1/4	157
14	100	85413	78.90	85443	78.90	18	40	5 1/4	181
16	100	85415	85.60	85445	85.60	18	43	5 1/4	194
18	200	85417	100.20	85447	100.20	18	48	5 1/4	215
20	200	85419	107.20	85449	107.20	18	51	5 1/4	227
22	200	85421	115.20	85451	115.20	18	54	5 1/4	240
24	200	85423	122.00	85453	122.00	18	57	5 1/4	253
26	200	85425	129.90	85455	129.90	18	60	5 1/4	291
28	200	85427	136.90	85457	136.90	18	63	5 1/4	305
30	200	85429	144.60	85459	144.60	18	66	5 1/4	319

WITH FUSELESS MAIN SWITCH									
4	30	86403	43.80	86433	43.80	18	25	5 1/4	112
6	60	86405	52.80	86435	52.80	18	30	5 1/4	133
8	60	86407	60.40	86437	60.40	18	33	5 1/4	145
10	60	86409	66.90	86439	66.90	18	36	5 1/4	157
12	100	86411	78.90	86441	78.90	18	41	5 1/4	190
14	100	86413	86.20	86443	86.20	18	44	5 1/4	202
16	100	86415	96.20	86445	96.20	18	47	5 1/4	215
18	200	86417	113.80	86447	113.80	18	54	5 1/4	239
20	200	86419	121.70	86449	121.70	18	57	5 1/4	252
22	200	86421	129.10	86451	129.10	18	60	5 1/4	290
24	200	86423	137.00	86453	137.00	18	63	5 1/4	304
26	200	86425	144.30	86455	144.30	18	66	5 1/4	317
28	200	86427	152.30	86457	152.30	18	69	5 1/4	331
30	200	86429	159.40	86459	159.40	18	72	5 1/4	345

WITH FUSIBLE MAIN SWITCH									
4	30	87403	45.20	87433	45.20	18	25	5 1/4	112
6	60	87405	54.20	87435	54.20	18	30	5 1/4	133
8	60	87407	61.80	87437	61.80	18	33	5 1/4	145
10	60	87409	68.30	87439	68.30	18	36	5 1/4	157
12	100	87411	83.50	87441	83.50	18	43	5 1/4	194
14	100	87413	94.10	87443	94.10	18	46	5 1/4	207
16	100	87415	100.70	87445	100.70	18	49	5 1/4	220
18	200	87417	120.90	87447	120.90	18	56	6	253
20	200	87419	128.80	87449	128.80	18	59	6	266
22	200	87421	136.10	87451	136.10	18	62	6	306
24	200	87423	144.10	87453	144.10	18	65	6	320
26	200	87425	151.30	87455	151.30	18	68	6	334
28	200	87427	159.40	87457	159.40	18	71	6	349
30	200	87429	166.60	87459	166.60	18	74	6	363



# BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD  
TYPE DCP—DEAD FRONT PANELS WITH CABINETS

Mains—3-wire, 125 Volts.

Branches—2-wire, with 20-ampere Push Switches Arranged for Cartridge Fuses.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.

No. of Circuit	Capacity Main Connet. Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Approx. Ship. Wt., Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out-side	Out-side	In-side	



## WITH MAIN LUGS ONLY

4	30	84903	\$35.00	84933	\$35.00	18	17 1/2	5 1/4	80
6	30	84905	42.60	84935	42.60	18	20 1/2	5 1/4	92
8	30	84907	50.60	84937	50.60	18	23 1/2	5 1/4	104
10	30	84909	57.50	84939	57.50	18	26 1/2	5 1/4	116
12	60	84911	65.40	84941	65.40	18	29 1/2	5 1/4	128
14	60	84913	72.40	84943	72.40	18	32 1/2	5 1/4	140
16	60	84915	80.20	84945	80.20	18	35 1/2	5 1/4	153
18	60	84917	87.00	84947	87.00	18	38 1/2	5 1/4	165
20	60	84919	94.70	84949	94.70	18	41 1/2	5 1/4	189
22	100	84921	106.50	84951	106.50	18	44 1/2	5 1/4	202
24	100	84923	113.50	84953	113.50	18	47 1/2	5 1/4	215
26	100	84925	121.40	84955	121.40	18	50 1/2	5 1/4	227
28	100	84927	128.50	84957	128.50	18	53 1/2	5 1/4	241
30	100	84929	136.20	84959	136.20	18	56 1/2	5 1/4	253



## WITH FUSIBLE MAINS

4	30	85903	38.70	85933	38.70	18	20	5 1/4	89
6	30	85905	44.20	85935	44.20	18	23	5 1/4	101
8	30	85907	54.20	85937	54.20	18	26	5 1/4	113
10	30	85909	61.20	85939	61.20	18	29	5 1/4	125
12	60	85911	70.70	85941	70.70	18	33	5 1/4	143
14	60	85913	77.50	85943	77.50	18	36	5 1/4	165
16	60	85915	85.20	85945	85.20	18	39	5 1/4	178
18	60	85917	91.80	85947	91.80	18	42	5 1/4	191
20	60	85919	102.60	85949	102.60	18	45	5 1/4	204
22	100	85921	115.10	85951	115.10	18	52	5 1/4	233
24	100	85923	122.40	85953	122.40	18	55	5 1/4	245
26	100	85925	130.20	85955	130.20	18	58	5 1/4	274
28	100	85927	137.20	85957	137.20	18	61	5 1/4	297
30	100	85929	145.00	85959	145.00	18	64	5 1/4	311



## WITH FUSELESS MAIN SWITCH

4	30	86903	46.00	86933	46.00	18	25	5 1/4	113
6	30	86905	53.50	86935	53.50	18	28	5 1/4	125
8	30	86907	61.50	86937	61.50	18	31	5 1/4	137
10	30	86909	68.30	86939	68.30	18	34	5 1/4	149
12	60	86911	79.00	86941	79.00	18	39	5 1/4	182
14	60	86913	85.80	86943	85.80	18	42	5 1/4	194
16	60	86915	93.60	86945	93.60	18	45	5 1/4	207
18	60	86917	103.10	86947	103.10	18	48	5 1/4	220
20	60	86919	111.00	86949	111.00	18	51	5 1/4	233
22	100	86921	125.20	86951	125.20	18	56	5 1/4	254
24	100	86923	133.10	86953	133.10	18	59	5 1/4	292
26	100	86925	140.20	86955	140.20	18	62	5 1/4	306
28	100	86927	148.00	86957	148.00	18	65	5 1/4	320
30	100	86929	155.00	86959	155.00	18	68	5 1/4	334



## WITH FUSIBLE MAIN SWITCH

4	30	87903	48.10	87933	48.10	18	25	5 1/4	113
6	30	87905	55.60	87935	55.60	18	28	5 1/4	125
8	30	87907	63.60	87937	63.60	18	31	5 1/4	137
10	30	87909	70.40	87939	70.40	18	34	5 1/4	149
12	60	87911	81.10	87941	81.10	18	39	5 1/4	182
14	60	87913	87.90	87943	87.90	18	42	5 1/4	194
16	60	87915	95.70	87945	95.70	18	45	5 1/4	207
18	60	87917	105.20	87947	105.20	18	48	5 1/4	220
20	60	87919	113.10	87949	113.10	18	51	5 1/4	233
22	100	87921	132.20	87951	132.20	18	58	5 1/4	259
24	100	87923	139.40	87953	139.40	18	61	5 1/4	298
26	100	87925	147.30	87955	147.30	18	64	5 1/4	311
28	100	87927	154.30	87957	154.30	18	67	5 1/4	326
30	100	87929	162.00	87959	162.00	18	70	5 1/4	340



## BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

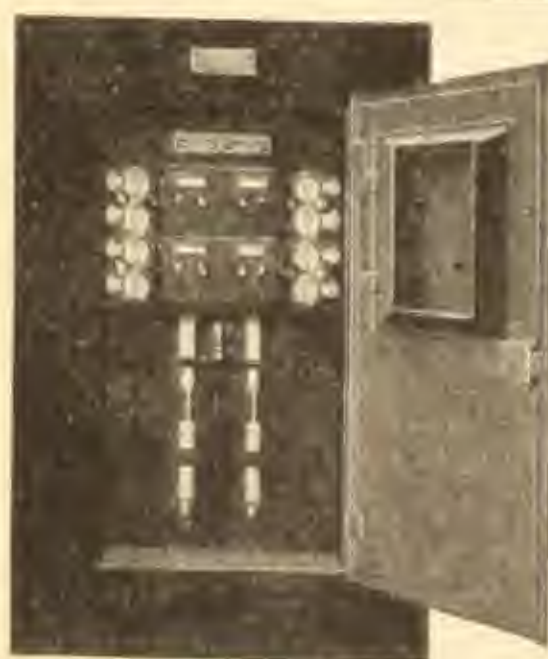
NATIONAL ELECTRICAL CODE STANDARD

## TYPE DPP—DEAD FRONT PANELS WITH CABINETS

Mains—2-wire, 125 Volts.

Branches—2-wire, with 20-ampere Push Switches Arranged for Edison Plug Fuses.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.



No. of Circuits	Capacity Main Conns. Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			ADDITIONAL SHOPS Wt. Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out-side	Out-side	In-side	

## WITH MAIN LUGS ONLY

4	30	80403	\$34.60	80433	\$34.60	18	17 1/2	5 1/4	80
6	60	80405	41.80	80435	41.80	18	20 1/2	5 1/4	92
8	60	80407	49.50	80437	49.50	18	23 1/2	5 1/4	104
10	60	80409	56.00	80439	56.00	18	26 1/2	5 1/4	114
12	100	80411	64.10	80441	64.10	18	29 1/2	5 1/4	128
14	100	80413	72.00	80443	72.00	18	32 1/2	5 1/4	140
16	100	80415	78.60	80445	78.60	18	35 1/2	5 1/4	153
18	200	80417	87.60	80447	87.60	18	38 1/2	5 1/4	165
20	200	80419	94.50	80449	94.50	18	41 1/2	5 1/4	189
22	200	80421	104.80	80451	104.80	18	44 1/2	5 1/4	202
24	200	80423	111.50	80453	111.50	18	47 1/2	5 1/4	215
26	200	80425	119.40	80455	119.40	18	50 1/2	5 1/4	227
28	200	80427	126.50	80457	126.50	18	53 1/2	5 1/4	241
30	200	80429	134.10	80459	134.10	18	56 1/2	5 1/4	253

## WITH FUSIBLE MAINS

4	30	81403	37.90	81433	37.90	18	20	5 1/4	89
6	60	81405	46.10	81435	46.10	18	24	5 1/4	106
8	60	81407	52.90	81437	52.90	18	27	5 1/4	118
10	60	81409	60.30	81439	60.30	18	30	5 1/4	130
12	100	81411	71.00	81441	71.00	18	37	5 1/4	157
14	100	81413	78.90	81443	78.90	18	40	5 1/4	181
16	100	81415	85.60	81445	85.60	18	43	5 1/4	194
18	200	81417	100.20	81447	100.20	18	48	5 1/4	215
20	200	81419	107.20	81449	107.20	18	51	5 1/4	227
22	200	81421	115.20	81451	115.20	18	54	5 1/4	240
24	200	81423	122.00	81453	122.00	18	57	5 1/4	253
26	200	81425	129.90	81455	129.90	18	60	5 1/4	291
28	200	81427	136.90	81457	136.90	18	63	5 1/4	305
30	200	81429	144.60	81459	144.60	18	66	5 1/4	319

## WITH FUSELESS MAIN SWITCH

4	30	82403	43.80	82433	43.80	18	25	5 1/4	112
6	60	82405	52.80	82435	52.80	18	30	5 1/4	133
8	60	82407	60.40	82437	60.40	18	33	5 1/4	145
10	60	82409	66.90	82439	66.90	18	36	5 1/4	157
12	100	82411	78.90	82441	78.90	18	41	5 1/4	190
14	100	82413	86.20	82443	86.20	18	44	5 1/4	202
16	100	82415	96.20	82445	96.20	18	47	5 1/4	215
18	200	82417	113.80	82447	113.80	18	54	5 1/4	239
20	200	82419	121.70	82449	121.70	18	57	5 1/4	252
22	200	82421	129.10	82451	129.10	18	60	5 1/4	290
24	200	82423	137.00	82453	137.00	18	63	5 1/4	304
26	200	82425	144.30	82455	144.30	18	66	5 1/4	317
28	200	82427	152.30	82457	152.30	18	69	5 1/4	331
30	200	82429	159.40	82459	159.40	18	72	5 1/4	345

## WITH FUSIBLE MAIN SWITCH

4	30	83403	45.20	83433	45.20	18	25	5 1/4	112
6	60	83405	54.20	83435	54.20	18	30	5 1/4	133
8	60	83407	61.80	83437	61.80	18	33	5 1/4	145
10	60	83409	68.30	83439	68.30	18	36	5 1/4	157
12	100	83411	83.50	83441	83.50	18	43	5 1/4	194
14	100	83413	94.10	83443	94.10	18	46	5 1/4	207
16	100	83415	100.70	83445	100.70	18	49	5 1/4	220
18	200	83417	120.90	83447	120.90	18	56	6	253
20	200	83419	128.80	83449	128.80	18	59	6	266
22	200	83421	136.10	83451	136.10	18	62	6	306
24	200	83423	144.10	83453	144.10	18	65	6	320
26	200	83425	151.30	83455	151.30	18	68	6	334
28	200	83427	159.40	83457	159.40	18	71	6	349
30	200	83429	166.60	83459	166.60	18	74	6	363



# BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

TYPE DPP—DEAD FRONT PANELS WITH CABINETS

Mains—3-wire, 125 Volts.

Branches—2-wire, with 20-ampere Push Switches Arranged for Edison Plug Fuses.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.

No. of Circuits	Capacity Main Connect. Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Approx. Ship. Wt., Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out-side	Out-side	In-side	



## WITH MAIN LUGS ONLY

4	30	80903	\$35.00	80933	\$35.00	18	17 1/2	5 1/4	80
6	30	80905	42.60	80935	42.60	18	20 1/2	5 1/4	92
8	30	80907	50.60	80937	50.60	18	23 1/2	5 1/4	104
10	30	80909	57.50	80939	57.50	18	26 1/2	5 1/4	116
12	60	80911	65.40	80941	65.40	18	29 1/2	5 1/4	128
14	60	80913	72.40	80943	72.40	18	32 1/2	5 1/4	140
16	60	80915	80.20	80945	80.20	18	35 1/2	5 1/4	153
18	60	80917	87.00	80947	87.00	18	38 1/2	5 1/4	165
20	60	80919	94.70	80949	94.70	18	41 1/2	5 1/4	189
22	100	80921	106.50	80951	106.50	18	44 1/2	5 1/4	202
24	100	80923	113.50	80953	113.50	18	47 1/2	5 1/4	215
26	100	80925	121.40	80955	121.40	18	50 1/2	5 1/4	227
28	100	80927	128.50	80957	128.50	18	53 1/2	5 1/4	241
30	100	80929	136.20	80959	136.20	18	56 1/2	5 1/4	253



## WITH FUSIBLE MAINS

4	30	81903	38.70	81933	38.70	18	20	5 1/4	89
6	30	81905	44.20	81935	44.20	18	23	5 1/4	101
8	30	81907	54.20	81937	54.20	18	26	5 1/4	113
10	30	81909	61.20	81939	61.20	18	29	5 1/4	125
12	60	81911	70.70	81941	70.70	18	33	5 1/4	143
14	60	81913	77.50	81943	77.50	18	36	5 1/4	165
16	60	81915	85.20	81945	85.20	18	39	5 1/4	178
18	60	81917	91.80	81947	91.80	18	42	5 1/4	191
20	60	81919	102.60	81949	102.60	18	45	5 1/4	204
22	100	81921	115.10	81951	115.10	18	52	5 1/4	233
24	100	81923	122.40	81953	122.40	18	55	5 1/4	245
26	100	81925	130.20	81955	130.20	18	58	5 1/4	274
28	100	81927	137.20	81957	137.20	18	61	5 1/4	297
30	100	81929	145.00	81959	145.00	18	64	5 1/4	311



## WITH FUSELESS MAIN SWITCH

4	30	82903	46.00	82933	46.00	18	25	5 1/4	113
6	30	82905	53.50	82935	53.50	18	28	5 1/4	125
8	30	82907	61.50	82937	61.50	18	31	5 1/4	137
10	30	82909	68.30	82939	68.30	18	34	5 1/4	149
12	60	82911	79.00	82941	79.00	18	39	5 1/4	182
14	60	82913	85.80	82943	85.80	18	42	5 1/4	194
16	60	82915	93.60	82945	93.60	18	45	5 1/4	207
18	60	82917	103.10	82947	103.10	18	48	5 1/4	220
20	60	82919	111.00	82949	111.00	18	51	5 1/4	233
22	100	82921	125.20	82951	125.20	18	56	5 1/4	254
24	100	82923	133.10	82953	133.10	18	59	5 1/4	292
26	100	82925	140.20	82955	140.20	18	62	5 1/4	306
28	100	82927	148.00	82957	148.00	18	65	5 1/4	320
30	100	82929	155.00	82959	155.00	18	68	5 1/4	334



## WITH FUSIBLE MAIN SWITCH

4	30	83903	48.10	83933	48.10	18	25	5 1/4	113
6	30	83905	55.60	83935	55.60	18	28	5 1/4	125
8	30	83907	63.60	83937	63.60	18	31	5 1/4	137
10	30	83909	70.40	83939	70.40	18	34	5 1/4	149
12	60	83911	81.10	83941	81.10	18	39	5 1/4	182
14	60	83913	87.90	83943	87.90	18	42	5 1/4	194
16	60	83915	95.70	83945	95.70	18	45	5 1/4	207
18	60	83917	105.20	83947	105.20	18	48	5 1/4	220
20	60	83919	113.10	83949	113.10	18	51	5 1/4	233
22	100	83921	132.20	83951	132.20	18	58	5 1/4	259
24	100	83923	139.40	83953	139.40	18	61	5 1/4	298
26	100	83925	147.30	83955	147.30	18	64	5 1/4	311
28	100	83927	154.30	83957	154.30	18	67	5 1/4	326
30	100	83929	162.00	83959	162.00	18	70	5 1/4	340



## BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

TYPE OC—OPEN FRONT PANELS WITH CABINETS

Mains—2-wire, 125 Volts.

Branches—2-wire, are Arranged for Cartridge Fuses Only.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings



No. of Circuits	Capacity Main Conductor Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Approx. Ship Wt. Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each	Outside	Outside	Inside	

## WITH MAIN LUGS ONLY

4	30	74003	\$22.10	74033	\$22.10	15 1/2	17 1/2	5 1/4	67
6	60	74005	25.00	74035	25.00	15 1/2	20 1/2	5 1/4	77
8	60	74007	28.40	74037	28.40	15 1/2	23 1/2	5 1/4	86
10	60	74009	31.00	74039	31.00	15 1/2	26 1/2	5 1/4	95
12	100	74011	35.00	74041	35.00	15 1/2	29 1/2	5 1/4	104
14	100	74013	38.80	74043	38.80	15 1/2	32 1/2	5 1/4	114
16	100	74015	41.50	74045	41.50	15 1/2	35 1/2	5 1/4	124
18	200	74017	46.40	74047	46.40	15 1/2	38 1/2	5 1/4	133
20	200	74019	49.20	74049	49.20	15 1/2	41 1/2	5 1/4	153
22	200	74021	56.30	74051	56.30	15 1/2	44 1/2	5 1/4	163
24	200	74023	58.90	74053	58.90	15 1/2	47 1/2	5 1/4	173
26	200	74025	62.70	74055	62.70	15 1/2	50 1/2	5 1/4	182
28	200	74027	65.60	74057	65.60	15 1/2	53 1/2	5 1/4	194
30	200	74029	69.30	74059	69.30	15 1/2	56 1/2	5 1/4	203

## WITH FUSIBLE MAINS

4	30	75003	24.30	75033	24.30	15 1/2	20	5 1/4	75
6	60	75005	28.10	75035	28.10	15 1/2	24	5 1/4	89
8	60	75007	30.80	75037	30.80	15 1/2	27	5 1/4	99
10	60	75009	34.10	75039	34.10	15 1/2	30	5 1/4	107
12	100	75011	39.70	75041	39.70	15 1/2	37	5 1/4	130
14	100	75013	43.40	75043	43.40	15 1/2	40	5 1/4	149
16	100	75015	46.00	75045	46.00	15 1/2	43	5 1/4	160
18	200	75017	56.50	75047	56.50	15 1/2	48	5 1/4	176
20	200	75019	59.30	75049	59.30	15 1/2	51	5 1/4	185
22	200	75021	63.20	75051	63.20	15 1/2	54	5 1/4	195
24	200	75023	66.00	75053	66.00	15 1/2	57	5 1/4	206
26	200	75025	69.90	75055	69.90	15 1/2	60	5 1/4	230
28	200	75027	72.60	75057	72.60	15 1/2	63	5 1/4	240
30	200	75029	76.30	75059	76.30	15 1/2	66	5 1/4	260

## WITH FUSELESS MAIN SWITCH

4	30	76003	28.40	76033	28.40	15 1/2	25	5 1/4	95
6	60	76005	32.80	76035	32.80	15 1/2	30	5 1/4	112
8	60	76007	36.20	76037	36.20	15 1/2	33	5 1/4	121
10	60	76009	38.80	76039	38.80	15 1/2	36	5 1/4	130
12	100	76011	46.20	76041	46.20	15 1/2	41	5 1/4	158
14	100	76013	49.30	76043	49.30	15 1/2	44	5 1/4	167
16	100	76015	56.00	76045	56.00	15 1/2	47	5 1/4	177
18	200	76017	67.40	76047	67.40	15 1/2	54	5 1/4	197
20	200	76019	71.40	76049	71.40	15 1/2	57	5 1/4	207
22	200	76021	74.60	76051	74.60	15 1/2	60	5 1/4	239
24	200	76023	78.40	76053	78.40	15 1/2	63	5 1/4	250
26	200	76025	81.30	76055	81.30	15 1/2	66	5 1/4	260
28	200	76027	85.20	76057	85.20	15 1/2	69	5 1/4	271
30	200	76029	88.30	76059	88.30	15 1/2	72	5 1/4	282

## WITH FUSIBLE MAIN SWITCH


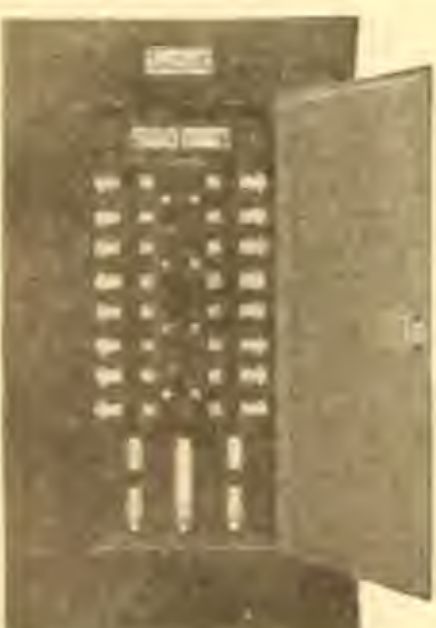


4	30	77003	29.80	77033	29.80	15 1/2	25	5 1/4	95
6	60	77005	34.20	77035	34.20	15 1/2	30	5 1/4	112
8	60	77007	37.60	77037	37.60	15 1/2	33	5 1/4	121
10	60	77009	40.20	77039	40.20	15 1/2	36	5 1/4	130
12	100	77011	50.00	77041	50.00	15 1/2	43	5 1/4	161
14	100	77013	57.20	77043	57.20	15 1/2	46	5 1/4	171
16	100	77015	59.70	77045	59.70	15 1/2	49	5 1/4	181
18	200	77017	73.70	77047	73.70	15 1/2	56	6	209
20	200	77019	76.90	77049	76.90	15 1/2	59	6	219
22	200	77021	80.80	77051	80.80	15 1/2	62	6	253
24	200	77023	84.40	77053	84.40	15 1/2	65	6	264
26	200	77025	87.50	77055	87.50	15 1/2	68	6	275
28	200	77027	91.40	77057	91.40	15 1/2	71	6	287
30	200	77029	94.20	77059	94.20	15 1/2	74	6	298



# BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

## NATIONAL ELECTRICAL CODE STANDARD TYPE OC—OPEN FRONT PANELS WITH CABINETS

Mains—3-wire, 125 Volts.  
Branches—2-wire Arranged for Cartridge Fuses Only.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings	No. of Circuits	Capacity Main Connect. Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Approx. Ship. Wt. Lbs.
			SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
			Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out-side	Out-side	In-side	
	WITH MAIN LUGS ONLY									
	4	30	74503	\$23.00	74533	\$23.00	15 1/2	17 1/2	5 1/4	67
	6	30	74505	25.70	74535	25.70	15 1/2	20 1/2	5 1/4	77
	8	30	74507	29.40	74537	29.40	15 1/2	23 1/2	5 1/4	86
	10	30	74509	32.40	74539	32.40	15 1/2	26 1/2	5 1/4	95
	12	60	74511	36.50	74541	36.50	15 1/2	29 1/2	5 1/4	104
	14	60	74513	39.30	74543	39.30	15 1/2	32 1/2	5 1/4	114
	16	60	74515	43.00	74545	43.00	15 1/2	35 1/2	5 1/4	124
	18	60	74517	45.70	74547	45.70	15 1/2	38 1/2	5 1/4	133
	20	60	74519	49.40	74549	49.40	15 1/2	41 1/2	5 1/4	153
	22	100	74521	57.90	74551	57.90	15 1/2	44 1/2	5 1/4	163
	24	100	74523	60.80	74553	60.80	15 1/2	47 1/2	5 1/4	173
	26	100	74525	64.60	74555	64.60	15 1/2	50 1/2	5 1/4	182
	28	100	74527	67.50	74557	67.50	15 1/2	53 1/2	5 1/4	194
30	100	74529	71.30	74559	71.30	15 1/2	56 1/2	5 1/4	203	
	WITH FUSIBLE MAINS									
	4	30	75503	26.00	75533	26.00	15 1/2	20	5 1/4	75
	6	30	75505	28.60	75535	28.60	15 1/2	23	5 1/4	84
	8	30	75507	32.30	75537	32.30	15 1/2	26	5 1/4	94
	10	30	75509	35.40	75539	35.40	15 1/2	29	5 1/4	103
	12	60	75511	40.50	75541	40.50	15 1/2	33	5 1/4	117
	14	60	75513	42.90	75543	42.90	15 1/2	36	5 1/4	135
	16	60	75515	46.90	75545	46.90	15 1/2	39	5 1/4	145
	18	60	75517	49.70	75547	49.70	15 1/2	42	5 1/4	156
	20	60	75519	56.80	75549	56.80	15 1/2	45	5 1/4	166
	22	100	75521	63.90	75551	63.90	15 1/2	52	5 1/4	190
	24	100	75523	67.00	75553	67.00	15 1/2	55	5 1/4	199
	26	100	75525	70.90	75555	70.90	15 1/2	58	5 1/4	223
	28	100	75527	73.80	75557	73.80	15 1/2	61	5 1/4	242
30	100	75529	77.40	75559	77.40	15 1/2	64	5 1/4	253	
	WITH FUSELESS MAIN SWITCH									
	4	30	76503	31.50	76533	31.50	15 1/2	25	5 1/4	96
	6	30	76505	34.10	76535	34.10	15 1/2	28	5 1/4	105
	8	30	76507	37.80	76537	37.80	15 1/2	31	5 1/4	114
	10	30	76509	40.90	76539	40.90	15 1/2	34	5 1/4	123
	12	60	76511	46.80	76541	46.80	15 1/2	39	5 1/4	150
	14	60	76513	49.60	76543	49.60	15 1/2	42	5 1/4	160
	16	60	76515	53.30	76545	53.30	15 1/2	45	5 1/4	171
	18	60	76517	59.50	76547	59.50	15 1/2	48	5 1/4	181
	20	60	76519	63.00	76549	63.00	15 1/2	51	5 1/4	191
	22	100	76521	72.50	76551	72.50	15 1/2	56	5 1/4	208
	24	100	76523	76.40	76553	76.40	15 1/2	59	5 1/4	240
	26	100	76525	79.50	76555	79.50	15 1/2	62	5 1/4	251
	28	100	76527	83.00	76557	83.00	15 1/2	65	5 1/4	262
30	100	76529	86.00	76559	86.00	15 1/2	68	5 1/4	273	
	WITH FUSIBLE MAIN SWITCH									
	4	30	77503	33.60	77533	33.60	15 1/2	25	5 1/4	96
	6	30	77505	36.20	77535	36.20	15 1/2	28	5 1/4	105
	8	30	77507	39.90	77537	39.90	15 1/2	31	5 1/4	114
	10	30	77509	43.00	77539	43.00	15 1/2	34	5 1/4	123
	12	60	77511	48.90	77541	48.90	15 1/2	39	5 1/4	151
	14	60	77513	51.70	77543	51.70	15 1/2	42	5 1/4	160
	16	60	77515	55.40	77545	55.40	15 1/2	45	5 1/4	171
	18	60	77517	61.60	77547	61.60	15 1/2	48	5 1/4	181
	20	60	77519	65.10	77549	65.10	15 1/2	51	5 1/4	191
	22	100	77521	78.80	77551	78.80	15 1/2	58	5 1/4	212
	24	100	77523	81.90	77553	81.90	15 1/2	61	5 1/4	245
	26	100	77525	85.60	77555	85.60	15 1/2	64	5 1/4	255
	28	100	77527	89.50	77557	89.50	15 1/2	67	5 1/4	267
30	100	77529	92.20	77559	92.20	15 1/2	70	5 1/4	278	



## BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

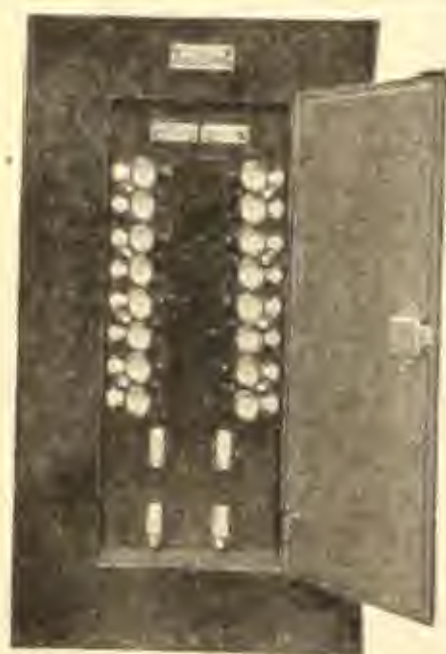
NATIONAL ELECTRICAL CODE STANDARD

TYPE OP—OPEN FRONT PANELS WITH CABINETS

Mains—2-wire, 125 Volts.

Branches—2-wire, Arranged for Edison Plug Fuses only.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.



No. of Circuits	Capacity Main Conns. Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Approx. Ship. Wt. Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each	Outside	Outside	Inside	

## WITH MAIN LUGS ONLY

4	30	70003	\$22.10	70033	\$22.10	15 1/2	17 1/2	5 1/4	67
6	60	70005	25.00	70035	25.00	15 1/2	20 1/2	5 1/4	77
8	60	70007	28.40	70037	28.40	15 1/2	23 1/2	5 1/4	86
10	60	70009	31.00	70039	31.00	15 1/2	26 1/2	5 1/4	95
12	100	70011	35.00	70041	35.00	15 1/2	29 1/2	5 1/4	104
14	100	70013	38.80	70043	38.80	15 1/2	32 1/2	5 1/4	114
16	100	70015	41.50	70045	41.50	15 1/2	35 1/2	5 1/4	124
18	200	70017	46.40	70047	46.40	15 1/2	38 1/2	5 1/4	133
20	200	70019	49.20	70049	49.20	15 1/2	41 1/2	5 1/4	153
22	200	70021	56.30	70051	56.30	15 1/2	44 1/2	5 1/4	163
24	200	70023	58.90	70053	58.90	15 1/2	47 1/2	5 1/4	173
26	200	70025	62.70	70055	62.70	15 1/2	50 1/2	5 1/4	182
28	200	70027	65.60	70057	65.60	15 1/2	53 1/2	5 1/4	194
30	200	70029	69.30	70059	69.30	15 1/2	56 1/2	5 1/4	202

## WITH FUSIBLE MAINS

4	30	71003	24.30	71033	24.30	15 1/2	20	5 1/4	75
6	60	71005	28.10	71035	28.10	15 1/2	24	5 1/4	89
8	60	71007	30.80	71037	30.80	15 1/2	27	5 1/4	99
10	60	71009	34.10	71039	34.10	15 1/2	30	5 1/4	107
12	100	71011	39.70	71041	39.70	15 1/2	37	5 1/4	130
14	100	71013	43.40	71043	43.40	15 1/2	40	5 1/4	149
16	100	71015	46.00	71045	46.00	15 1/2	43	5 1/4	169
18	200	71017	56.50	71047	56.50	15 1/2	48	5 1/4	176
20	200	71019	59.30	71049	59.30	15 1/2	51	5 1/4	185
22	200	71021	63.20	71051	63.20	15 1/2	54	5 1/4	195
24	200	71023	66.00	71053	66.00	15 1/2	57	5 1/4	206
26	200	71025	69.90	71055	69.90	15 1/2	60	5 1/4	239
28	200	71027	72.60	71057	72.60	15 1/2	63	5 1/4	249
30	200	71029	76.30	71059	76.30	15 1/2	66	5 1/4	260

## WITH FUSELESS MAIN SWITCH

4	30	72003	28.40	72033	28.40	15 1/2	25	5 1/4	95
6	60	72005	32.80	72035	32.80	15 1/2	30	5 1/4	112
8	60	72007	36.20	72037	36.20	15 1/2	33	5 1/4	121
10	60	72009	38.80	72039	38.80	15 1/2	36	5 1/4	130
12	100	72011	46.20	72041	46.20	15 1/2	41	5 1/4	158
14	100	72013	49.30	72043	49.30	15 1/2	44	5 1/4	167
16	100	72015	56.00	72045	56.00	15 1/2	47	5 1/4	177
18	200	72017	67.40	72047	67.40	15 1/2	54	5 1/4	197
20	200	72019	71.40	72049	71.40	15 1/2	57	5 1/4	207
22	200	72021	74.60	72051	74.60	15 1/2	60	5 1/4	239
24	200	72023	78.40	72053	78.40	15 1/2	63	5 1/4	250
26	200	72025	81.30	72055	81.30	15 1/2	66	5 1/4	260
28	200	72027	85.20	72057	85.20	15 1/2	69	5 1/4	271
30	200	72029	88.30	72059	88.30	15 1/2	72	5 1/4	282

## WITH FUSIBLE MAIN SWITCH

4	30	73003	29.80	73033	29.80	15 1/2	25	5 1/4	95
6	60	73005	34.20	73035	34.20	15 1/2	30	5 1/4	112
8	60	73007	37.60	73037	37.60	15 1/2	33	5 1/4	121
10	60	73009	40.20	73039	40.20	15 1/2	36	5 1/4	130
12	100	73011	50.00	73041	50.00	15 1/2	43	5 1/4	161
14	100	73013	57.20	73043	57.20	15 1/2	46	5 1/4	171
16	100	73015	59.70	73045	59.70	15 1/2	49	5 1/4	181
18	200	73017	73.70	73047	73.70	15 1/2	56	6	209
20	200	73019	76.90	73049	76.90	15 1/2	59	6	219
22	200	73021	80.80	73051	80.80	15 1/2	62	6	253
24	200	73023	84.40	73053	84.40	15 1/2	65	6	264
26	200	73025	87.50	73055	87.50	15 1/2	68	6	275
28	200	73027	91.40	73057	91.40	15 1/2	71	6	287
30	200	73029	94.20	73059	94.20	15 1/2	74	6	298



# BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

TYPE OP—OPEN FRONT PANELS WITH CABINETS

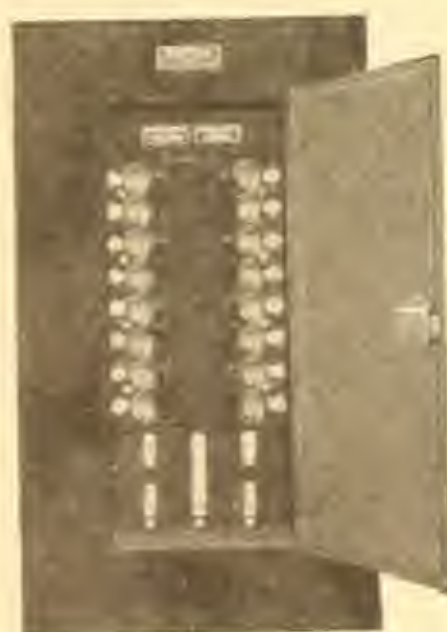
Mains—3-wire, 125 Volts.

Branches—2-wire, Arranged for Edison Plug Fuses only.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.



No. of Cir- cuits	Capacity Main Conner. Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Ap- prox. Ship. Wt. Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out- side	Out- side	In- side	
WITH MAIN LUGS ONLY									
4	30	70503	\$23.00	70533	\$23.00	15½	17½	5¼	67
6	30	70505	25.70	70535	25.70	15½	20½	5¼	77
8	30	70507	29.40	70537	29.40	15½	23½	5¼	86
10	30	70509	32.40	70539	32.40	15½	26½	5¼	95
12	60	70511	36.50	70541	36.50	15½	29½	5¼	104
14	60	70513	39.30	70543	39.30	15½	32½	5¼	114
16	60	70515	43.00	70545	43.00	15½	35½	5¼	124
18	60	70517	45.70	70547	45.70	15½	38½	5¼	133
20	60	70519	49.40	70549	49.40	15½	41½	5¼	153
22	100	70521	57.90	70551	57.90	15½	44½	5¼	163
24	100	70523	60.80	70553	60.80	15½	47½	5¼	173
26	100	70525	64.60	70555	64.60	15½	50½	5¼	182
28	100	70527	67.50	70557	67.50	15½	53½	5¼	194
30	100	70529	71.30	70559	71.30	15½	56½	5¼	203



WITH FUSIBLE MAINS									
4	30	71503	26.00	71533	26.00	15½	20	5¼	75
6	30	71505	28.60	71535	28.60	15½	23	5¼	84
8	30	71507	32.30	71537	32.30	15½	26	5¼	94
10	30	71509	35.40	71539	35.40	15½	29	5¼	103
12	60	71511	40.50	71541	40.50	15½	33	5¼	117
14	60	71513	42.90	71543	42.90	15½	36	5¼	135
16	60	71515	46.90	71545	46.90	15½	39	5¼	145
18	60	71517	49.70	71547	49.70	15½	42	5¼	156
20	60	71519	56.80	71549	56.80	15½	45	5¼	166
22	100	71521	63.90	71551	63.90	15½	52	5¼	190
24	100	71523	67.00	71553	67.00	15½	55	5¼	199
26	100	71525	70.90	71555	70.90	15½	58	5¼	223
28	100	71527	73.80	71557	73.80	15½	61	5¼	242
30	100	71529	77.40	71559	77.40	15½	64	5¼	253



WITH FUSELESS MAIN SWITCH									
4	30	72503	31.50	72533	31.50	15½	25	5¼	96
6	30	72505	34.10	72535	34.10	15½	28	5¼	105
8	30	72507	37.80	72537	37.80	15½	31	5¼	114
10	30	72509	40.90	72539	40.90	15½	34	5¼	123
12	60	72511	46.80	72541	46.80	15½	39	5¼	150
14	60	72513	49.60	72543	49.60	15½	42	5¼	160
16	60	72515	53.30	72545	53.30	15½	45	5¼	171
18	60	72517	59.50	72547	59.50	15½	48	5¼	181
20	60	72519	63.00	72549	63.00	15½	51	5¼	191
22	100	72521	72.50	72551	72.50	15½	56	5¼	208
24	100	72523	76.40	72553	76.40	15½	59	5¼	240
26	100	72525	79.50	72555	79.50	15½	62	5¼	251
28	100	72527	83.00	72557	83.00	15½	65	5¼	262
30	100	72529	86.00	72559	86.00	15½	68	5¼	273



WITH FUSIBLE MAIN SWITCH									
4	30	73503	33.60	73533	33.60	15½	25	5¼	96
6	30	73505	36.20	73535	36.20	15½	28	5¼	105
8	30	73507	39.90	73537	39.90	15½	31	5¼	114
10	30	73509	43.00	73539	43.00	15½	34	5¼	123
12	60	73511	48.90	73541	48.90	15½	39	5¼	151
14	60	73513	51.70	73543	51.70	15½	42	5¼	160
16	60	73515	55.40	73545	55.40	15½	45	5¼	171
18	60	73517	61.60	73547	61.60	15½	48	5¼	181
20	60	73519	65.10	73549	65.10	15½	51	5¼	191
22	100	73521	78.80	73551	78.80	15½	58	5¼	212
24	100	73523	81.90	73553	81.90	15½	61	5¼	245
26	100	73525	85.60	73555	85.60	15½	64	5¼	255
28	100	73527	89.50	73557	89.50	15½	67	5¼	267
30	100	73529	92.20	73559	92.20	15½	70	5¼	276



## BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

TYPE OCK—OPEN FRONT—PANELS WITH CABINETS

Mains—2-wire, 125 Volts.

Branches—2-wire, with 30-ampere Knife Switches Arranged for Cartridge Fuses.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings



No. of Circuits	Capacity Main Condes. Amperes	PANEL AND BARRIBB WITH				BOX DIMENSIONS, IN.			Approx. Ship. Wt. Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out-side	Out-side	In-side	

## WITH MAIN LUGS ONLY

4	30	74303	\$25.60	74333	\$25.60	18	17 1/2	5 1/4	80
6	60	74305	29.90	74335	29.90	18	20 1/2	5 1/4	92
8	60	74307	34.70	74337	34.70	18	23 1/2	5 1/4	104
10	60	74309	38.30	74339	38.30	18	26 1/2	5 1/4	116
12	100	74311	44.00	74341	44.00	18	29 1/2	5 1/4	128
14	100	74313	48.50	74343	48.50	18	32 1/2	5 1/4	140
16	100	74315	52.20	74345	52.20	18	35 1/2	5 1/4	153
18	200	74317	58.30	74347	58.30	18	38 1/2	5 1/4	165
20	200	74319	62.30	74349	62.30	18	41 1/2	5 1/4	189
22	200	74321	69.70	74351	69.70	18	44 1/2	5 1/4	202
24	200	74323	73.50	74353	73.50	18	47 1/2	5 1/4	215
26	200	74325	78.50	74355	78.50	18	50 1/2	5 1/4	227
28	200	74327	82.70	74357	82.70	18	53 1/2	5 1/4	241
30	200	74329	87.40	74359	87.40	18	56 1/2	5 1/4	253

## WITH FUSIBLE MAINS

4	30	75303	28.30	75333	28.30	18	20	5 1/4	89
6	60	75305	33.30	75335	33.30	18	24	5 1/4	106
8	60	75307	37.20	75337	37.20	18	27	5 1/4	118
10	60	75309	41.70	75339	41.70	18	30	5 1/4	130
12	100	75311	48.30	75341	48.30	18	37	5 1/4	157
14	100	75313	53.30	75343	53.30	18	40	5 1/4	181
16	100	75315	57.10	75345	57.10	18	43	5 1/4	194
18	200	75317	68.20	75347	68.20	18	48	5 1/4	215
20	200	75319	72.30	75349	72.30	18	51	5 1/4	227
22	200	75321	77.40	75351	77.40	18	54	5 1/4	240
24	200	75323	81.30	75353	81.30	18	57	5 1/4	253
26	200	75325	86.30	75355	86.30	18	60	5 1/4	291
28	200	75327	90.40	75357	90.40	18	63	5 1/4	305
30	200	75329	95.20	75359	95.20	18	66	5 1/4	319

## WITH FUSELESS MAIN SWITCH

4	30	76303	32.70	76333	32.70	18	25	5 1/4	112
6	60	76305	38.20	76335	38.20	18	30	5 1/4	133
8	60	76307	42.90	76337	42.90	18	33	5 1/4	145
10	60	76309	46.50	76339	46.50	18	36	5 1/4	157
12	100	76311	55.00	76341	55.00	18	41	5 1/4	190
14	100	76313	59.40	76343	59.40	18	44	5 1/4	202
16	100	76315	66.50	76345	66.50	18	47	5 1/4	215
18	200	76317	80.00	76347	80.00	18	54	5 1/4	239
20	200	76319	85.20	76349	85.20	18	57	5 1/4	252
22	200	76321	89.50	76351	89.50	18	60	5 1/4	290
24	200	76323	94.50	76353	94.50	18	63	5 1/4	304
26	200	76325	98.90	76355	98.90	18	66	5 1/4	317
28	200	76327	104.00	76357	104.00	18	69	5 1/4	331
30	200	76329	108.20	76359	108.20	18	72	5 1/4	345

## WITH FUSIBLE MAIN SWITCH

4	30	77303	34.10	77333	34.10	18	25	5 1/4	112
6	60	77305	39.60	77335	39.60	18	30	5 1/4	133
8	60	77307	44.30	77337	44.30	18	33	5 1/4	145
10	60	77309	47.90	77339	47.90	18	36	5 1/4	157
12	100	77311	59.00	77341	59.00	18	43	5 1/4	194
14	100	77313	66.70	77343	66.70	18	46	5 1/4	207
16	100	77315	70.40	77345	70.40	18	49	5 1/4	220
18	200	77317	86.50	77347	86.50	18	56	6	253
20	200	77319	91.50	77349	91.50	18	59	6	266
22	200	77321	95.90	77351	95.90	18	62	6	306
24	200	77323	101.00	77353	101.00	18	65	6	320
26	200	77325	105.30	77355	105.30	18	68	6	334
28	200	77327	110.50	77357	110.50	18	71	6	349
30	200	77329	114.80	77359	114.80	18	74	6	363



# BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

TYPE OCK—OPEN FRONT PANELS WITH CABINETS

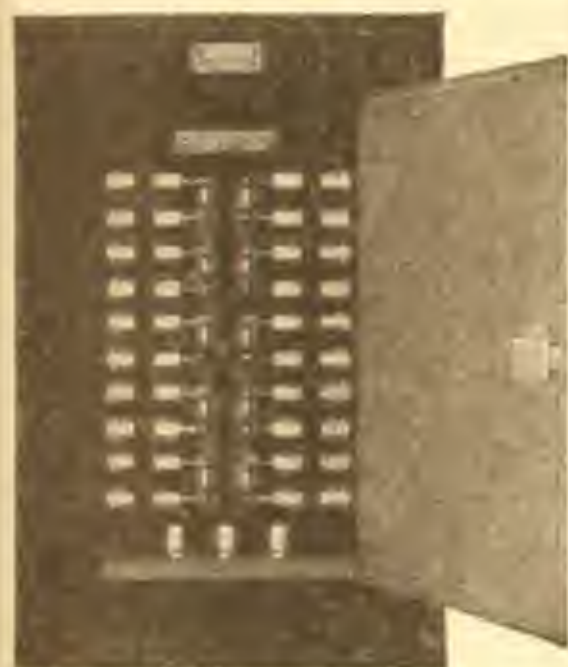
Mains—3-wire, 125 Volts.

Branches—2-wire, with 30-ampere Knife Switches Arranged for Cartridge Fuses.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.

No. of Circuits	Capacity Main Connet. Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Approx. Ship. Wt., Lbs.
		SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
		Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out-side	Out-side	In-side	

## WITH MAIN LUGS ONLY



4	30	74803	\$26 00	74833	\$26 00	18	17 1/2	5 1/4	80
6	30	74805	30 70	74835	30 70	18	20 1/2	5 1/4	92
8	30	74807	35 80	74837	35 80	18	23 1/2	5 1/4	104
10	30	74809	39 80	74839	39 80	18	26 1/2	5 1/4	116
12	60	74811	45 10	74841	45 10	18	29 1/2	5 1/4	128
14	60	74813	48 90	74843	48 90	18	32 1/2	5 1/4	140
16	60	74815	53 80	74845	53 80	18	35 1/2	5 1/4	153
18	60	74817	57 70	74847	57 70	18	38 1/2	5 1/4	165
20	60	74819	62 50	74849	62 50	18	41 1/2	5 1/4	189
22	100	74821	71 40	74851	71 40	18	44 1/2	5 1/4	202
24	100	74823	75 50	74853	75 50	18	47 1/2	5 1/4	215
26	100	74825	80 50	74855	80 50	18	50 1/2	5 1/4	227
28	100	74827	84 70	74857	84 70	18	53 1/2	5 1/4	241
30	100	74829	89 50	74859	89 50	18	56 1/2	5 1/4	253

## WITH FUSIBLE MAINS



4	30	75803	29 10	75833	29 10	18	20	5 1/4	89
6	30	75805	31 70	75835	31 70	18	23	5 1/4	101
8	30	75807	38 80	75837	38 80	18	26	5 1/4	113
10	30	75809	42 90	75839	42 90	18	29	5 1/4	125
12	60	75811	49 20	75841	49 20	18	33	5 1/4	143
14	60	75813	53 10	75843	53 10	18	36	5 1/4	165
16	60	75815	57 90	75845	57 90	18	39	5 1/4	178
18	60	75817	61 80	75847	61 80	18	42	5 1/4	191
20	60	75819	69 40	75849	69 40	18	45	5 1/4	204
22	100	75821	77 90	75851	77 90	18	52	5 1/4	233
24	100	75823	82 30	75853	82 30	18	55	5 1/4	245
26	100	75825	87 20	75855	87 20	18	58	5 1/4	274
28	100	75827	91 30	75857	91 30	18	61	5 1/4	297
30	100	75829	96 20	75859	96 20	18	64	5 1/4	311

## WITH FUSELESS MAIN SWITCH



4	30	76803	34 90	76833	34 90	18	25	5 1/4	113
6	30	76805	39 50	76835	39 50	18	28	5 1/4	125
8	30	76807	44 60	76837	44 60	18	31	5 1/4	137
10	30	76809	48 50	76839	48 50	18	34	5 1/4	149
12	60	76811	55 70	76841	55 70	18	39	5 1/4	182
14	60	76813	59 60	76843	59 60	18	42	5 1/4	194
16	60	76815	64 50	76845	64 50	18	45	5 1/4	207
18	60	76817	71 10	76847	71 10	18	48	5 1/4	220
20	60	76819	76 10	76849	76 10	18	51	5 1/4	233
22	100	76821	86 80	76851	86 80	18	56	5 1/4	254
24	100	76823	91 80	76853	91 80	18	59	5 1/4	292
26	100	76825	96 00	76855	96 00	18	62	5 1/4	306
28	100	76827	100 90	76857	100 90	18	65	5 1/4	320
30	100	76829	105 00	76859	105 00	18	68	5 1/4	334

## WITH FUSIBLE MAIN SWITCH



4	30	77803	37 00	77833	37 00	18	25	5 1/4	113
6	30	77805	41 60	77835	41 60	18	28	5 1/4	125
8	30	77807	46 70	77837	46 70	18	31	5 1/4	137
10	30	77809	50 60	77839	50 60	18	34	5 1/4	149
12	60	77811	57 80	77841	57 80	18	39	5 1/4	182
14	60	77813	61 70	77843	61 70	18	42	5 1/4	194
16	60	77815	66 60	77845	66 60	18	45	5 1/4	207
18	60	77817	73 20	77847	73 20	18	48	5 1/4	220
20	60	77819	78 20	77849	78 20	18	51	5 1/4	233
22	100	77821	93 20	77851	93 20	18	58	5 1/4	259
24	100	77823	97 50	77853	97 50	18	61	5 1/4	298
26	100	77825	102 50	77855	102 50	18	64	5 1/4	311
28	100	77827	106 60	77857	106 60	18	67	5 1/4	326
30	100	77829	111 40	77859	111 40	18	70	5 1/4	340



## BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

TYPE OPK—OPEN FRONT PANELS WITH CABINETS

Mains—2-wire, 125 Volts.

Branches—2-wire, with 30-ampere Knife Switches Arranged for Edison Plug Fuses.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.

No. of Circuits	Capacity Main Cables Amperes	PANEL AND BARRIER WITH	Box Dimensions, In.	Approx. Weight, Lbs.							
SURFACE CABINET 3-INCH GUTTER	FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth						
Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out-side	Out-side	In-side					
WITH MAIN LUGS ONLY		4	30	70303	\$25.60	70333	\$25.60	18	17 1/2	5 1/4	80
6	60	70305	29.90	70335	29.90	18	20 1/2	5 1/4	92		
8	60	70307	34.70	70337	34.70	18	23 1/2	5 1/4	104		
10	60	70309	38.30	70339	38.30	18	26 1/2	5 1/4	116		
12	100	70311	44.00	70341	44.00	18	29 1/2	5 1/4	128		
14	100	70313	48.50	70343	48.50	18	32 1/2	5 1/4	140		
16	100	70315	52.20	70345	52.20	18	35 1/2	5 1/4	153		
18	200	70317	58.30	70347	58.30	18	38 1/2	5 1/4	165		
20	200	70319	62.30	70349	62.30	18	41 1/2	5 1/4	189		
22	200	70321	69.70	70351	69.70	18	44 1/2	5 1/4	202		
24	200	70323	73.50	70353	73.50	18	47 1/2	5 1/4	215		
26	200	70325	78.50	70355	78.50	18	50 1/2	5 1/4	227		
28	200	70327	82.70	70357	82.70	18	53 1/2	5 1/4	241		
30	200	70329	87.40	70359	87.40	18	56 1/2	5 1/4	253		
WITH FUSIBLE MAINS		4	30	71303	28.30	71333	28.30	18	20	5 1/4	89
6	60	71305	33.30	71335	33.30	18	24	5 1/4	106		
8	60	71307	37.20	71337	37.20	18	27	5 1/4	118		
10	60	71309	41.70	71339	41.70	18	30	5 1/4	130		
12	100	71311	48.30	71341	48.30	18	37	5 1/4	157		
14	100	71313	53.30	71343	53.30	18	40	5 1/4	181		
16	100	71315	57.10	71345	57.10	18	43	5 1/4	194		
18	200	71317	68.20	71347	68.20	18	48	5 1/4	219		
20	200	71319	72.30	71349	72.30	18	51	5 1/4	227		
22	200	71321	77.40	71351	77.40	18	54	5 1/4	240		
24	200	71323	81.30	71353	81.30	18	57	5 1/4	253		
26	200	71325	86.30	71355	86.30	18	60	5 1/4	291		
28	200	71327	90.40	71357	90.40	18	63	5 1/4	305		
30	200	71329	95.20	71359	95.20	18	66	5 1/4	319		
WITH FUSELESS MAIN SWITCH		4	30	72303	32.70	72333	32.70	18	25	5 1/4	112
6	60	72305	38.20	72335	38.20	18	30	5 1/4	133		
8	60	72307	42.90	72337	42.90	18	33	5 1/4	145		
10	60	72309	46.50	72339	46.50	18	36	5 1/4	157		
12	100	72311	55.00	72341	55.00	18	41	5 1/4	190		
14	100	72313	59.40	72343	59.40	18	44	5 1/4	202		
16	100	72315	66.50	72345	66.50	18	47	5 1/4	215		
18	200	72317	80.00	72347	80.00	18	54	5 1/4	239		
20	200	72319	85.20	72349	85.20	18	57	5 1/4	252		
22	200	72321	89.50	72351	89.50	18	60	5 1/4	290		
24	200	72323	94.50	72353	94.50	18	63	5 1/4	304		
26	200	72325	98.90	72355	98.90	18	66	5 1/4	317		
28	200	72327	104.00	72357	104.00	18	69	5 1/4	331		
30	200	72329	108.20	72359	108.20	18	72	5 1/4	345		
WITH FUSIBLE MAIN SWITCH		4	30	73303	34.10	73333	34.10	18	25	5 1/4	112
6	60	73305	39.60	73335	39.60	18	30	5 1/4	133		
8	60	73307	44.30	73337	44.30	18	33	5 1/4	145		
10	60	73309	47.90	73339	47.90	18	36	5 1/4	157		
12	100	73311	59.00	73341	59.00	18	43	5 1/4	194		
14	100	73313	66.70	73343	66.70	18	46	5 1/4	207		
16	100	73315	70.40	73345	70.40	18	49	5 1/4	220		
18	200	73317	86.50	73347	86.50	18	56	6	253		
20	200	73319	91.50	73349	91.50	18	59	6	266		
22	200	73321	95.90	73351	95.90	18	62	6	306		
24	200	73323	101.00	73353	101.00	18	65	6	320		
26	200	73325	105.30	73355	105.30	18	68	6	334		
28	200	73327	110.50	73357	110.50	18	71	6	349		
30	200	73329	114.80	73359	114.80	18	74	6	363		



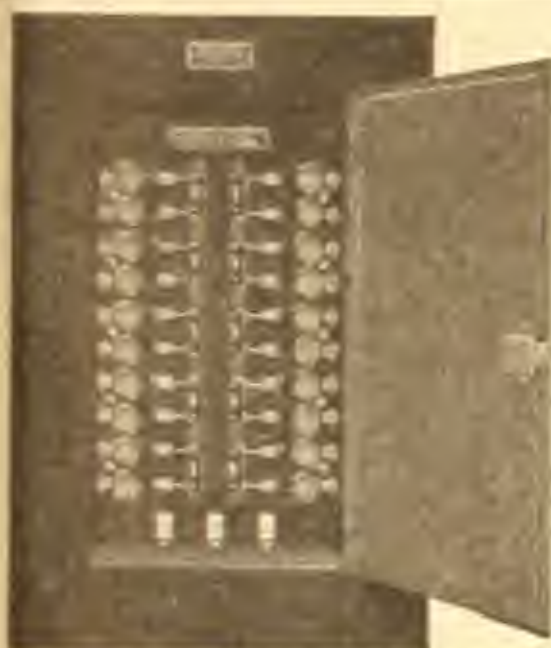



# BENJAMIN-STARRETT STANDARDIZED PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

TYPE OPK—OPEN FRONT PANELS WITH CABINETS

Mains—3-wire, 125 Volts.

Branches—2-wire, with 30-ampere Knife Switches Arranged for Edison Plug Fuses.

Before Ordering, read carefully Pages of Introduction to Panel Board Listings.	No. of Circuits	Capacity Main Conduits Amperes	PANEL AND BARRIER WITH				BOX DIMENSIONS, IN.			Approx. Ship. Wt. Lbs.
			SURFACE CABINET 3-INCH GUTTER		FLUSH CABINET 3-INCH GUTTER		Width	Height	Depth	
			Mfrs. No.	Price Each	Mfrs. No.	Price Each	Out-side	Out-side	In-side	
	WITH MAIN LUGS ONLY									
	4	30	70803	\$26.00	70833	\$26.00	18	17 1/2	5 1/4	80
	6	30	70805	30.70	70835	30.70	18	20 1/2	5 1/4	92
	8	30	70807	35.80	70837	35.80	18	23 1/2	5 1/4	104
	10	30	70809	39.80	70839	39.80	18	26 1/2	5 1/4	116
	12	60	70811	45.10	70841	45.10	18	29 1/2	5 1/4	128
	14	60	70813	48.90	70843	48.90	18	32 1/2	5 1/4	140
	16	60	70815	53.80	70845	53.80	18	35 1/2	5 1/4	153
	18	60	70817	57.70	70847	57.70	18	38 1/2	5 1/4	165
	20	60	70819	62.50	70849	62.50	18	41 1/2	5 1/4	189
	22	100	70821	71.40	70851	71.40	18	44 1/2	5 1/4	202
	24	100	70823	75.50	70853	75.50	18	47 1/2	5 1/4	215
	26	100	70825	80.50	70855	80.50	18	50 1/2	5 1/4	227
	28	100	70827	84.70	70857	84.70	18	53 1/2	5 1/4	241
30	100	70829	89.50	70859	89.50	18	56 1/2	5 1/4	253	
	WITH FUSIBLE MAINS									
	4	30	71803	29.10	71833	29.10	18	20	5 1/4	89
	6	30	71805	31.70	71835	31.70	18	23	5 1/4	101
	8	30	71807	38.80	71837	38.80	18	26	5 1/4	113
	10	30	71809	42.90	71839	42.90	18	29	5 1/4	125
	12	60	71811	49.20	71841	49.20	18	33	5 1/4	143
	14	60	71813	53.10	71843	53.10	18	36	5 1/4	165
	16	60	71815	57.90	71845	57.90	18	39	5 1/4	178
	18	60	71817	61.80	71847	61.80	18	42	5 1/4	191
	20	60	71819	69.40	71849	69.40	18	45	5 1/4	204
	22	100	71821	77.90	71851	77.90	18	52	5 1/4	233
	24	100	71823	82.30	71853	82.30	18	55	5 1/4	245
	26	100	71825	87.20	71855	87.20	18	58	5 1/4	274
	28	100	71827	91.30	71857	91.30	18	61	5 1/4	297
30	100	71829	96.20	71859	96.20	18	64	5 1/4	311	
	WITH FUSELESS MAIN SWITCH									
	4	30	72803	34.90	72833	34.90	18	25	5 1/4	113
	6	30	72805	39.50	72835	39.50	18	28	5 1/4	125
	8	30	72807	44.60	72837	44.60	18	31	5 1/4	137
	10	30	72809	48.50	72839	48.50	18	34	5 1/4	149
	12	60	72811	55.70	72841	55.70	18	39	5 1/4	182
	14	60	72813	59.60	72843	59.60	18	42	5 1/4	194
	16	60	72815	64.50	72845	64.50	18	45	5 1/4	207
	18	60	72817	71.10	72847	71.10	18	48	5 1/4	220
	20	60	72819	76.10	72849	76.10	18	51	5 1/4	233
	22	100	72821	86.80	72851	86.80	18	56	5 1/4	254
	24	100	72823	91.80	72853	91.80	18	59	5 1/4	292
	26	100	72825	96.00	72855	96.00	18	62	5 1/4	306
	28	100	72827	100.90	72857	100.90	18	65	5 1/4	320
30	100	72829	105.00	72859	105.00	18	68	5 1/4	334	
	WITH FUSIBLE MAIN SWITCH									
	4	30	73803	37.00	73833	37.00	18	25	5 1/4	113
	6	30	73805	41.60	73835	41.60	18	28	5 1/4	125
	8	30	73807	46.70	73837	46.70	18	31	5 1/4	137
	10	30	73809	50.60	73839	50.60	18	34	5 1/4	149
	12	60	73811	57.80	73841	57.80	18	39	5 1/4	182
	14	60	73813	61.70	73843	61.70	18	42	5 1/4	194
	16	60	73815	66.60	73845	66.60	18	45	5 1/4	207
	18	60	73817	73.20	73847	73.20	18	48	5 1/4	220
	20	60	73819	78.20	73849	78.20	18	51	5 1/4	233
	22	100	73821	93.20	73851	93.20	18	58	5 1/4	259
	24	100	73823	97.50	73853	97.50	18	61	5 1/4	298
	26	100	73825	102.50	73855	102.50	18	64	5 1/4	311
	28	100	73827	106.60	73857	106.60	18	67	5 1/4	326
30	100	73829	111.40	73859	111.40	18	70	5 1/4	340	



## BENJAMIN-STARRETT STOCK PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

Type SPP-2-wire Stock Panel,  
in Flush CabinetStock Panel with Cabinet—  
Exposed View

This line of panel boards was developed as the result of a well recognized need for panel equipment that might be obtained from stock without the usual delays incident to having a panel made to order.

Contractors find that Stock Panel Boards meet 85 per cent of their panel board requirements when wiring plans are so arranged that distribution centers will have 10 circuits or less, usually a most economical arrangement.

As a main distribution center they are suitable for residences, stores, offices, shops or small factories requiring not over 10 circuits. When so used a main fused knife switch in a separate box is employed in conjunction. A switch of the safety, externally operated pattern is ideal for this purpose.

As a sub-center of distribution it is suitable for public buildings, hotels, stores, offices, garages, etc.

## Specifications

RANGE.—4 to 10 circuits.

BASES.—Molded composition, strong fireproof, of high dielectric strength and unaffected by heat, moisture, oils or acids. Finish, dead black.

IMBEDDED BUS BARS.—These are formed from hard drawn copper and concealed in the base.

BRANCHES.—Have capacity of 660 watts each, and equipped with Edison Plug Fuse Receptacles and Switches as listed.

BRANCH SWITCHES.—Push and tumbler switches have 20-ampere capacity and knife switches, 30-ampere capacity.



BARRIERS.—Same material as bases, slotted for wires. Great simplicity in installation or removal.

CABINETS.—Made of sheet steel N. E. C. specification thickness. Finish, black. 3-inch gutter on all four sides. Knockouts,  $\frac{1}{2}$ -inch.

WEIGHT AND SIZE.—These panel boards weigh less than 50 per cent of any corresponding size and type of slate panel board. In square inches of space occupied they are, circuit for circuit, the smallest panel boards made.

NUMBERING.—Each branch circuit is equipped with a number plate.

PACKING.—Stock Panels are packed in strong cartons and plainly labeled, making them excellent shelf material.



# BENJAMIN-STARRETT STOCK PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD



Type SP Panel  
With 3-wire Mains

## TYPE SP

Mains—2 or 3-wire, 125 Volts, with Lugs in Mains Only  
Branches—Arranged for Edison Plug Fuses Only

2-wire Mains, 125 Volts

No. of Cir.	—PANEL AND BARRIER WITH—				BOX DIMENSIONS, IN.			Approx. Ship. Wt. Lbs.
	SURFACE CABINET 3-IN. GUTTER Mfrs. No.	Price Each	FLUSH CABINET 3-IN. GUTTER Mfrs. No.	Price Each	Width Outside	Height Outside	Depth Inside	
4	86473	\$20.10	87473	\$20.10	12 $\frac{1}{4}$	15 $\frac{3}{4}$	3 $\frac{3}{4}$	40
6	86475	23.00	87475	23.00	12 $\frac{1}{4}$	18 $\frac{3}{4}$	3 $\frac{3}{4}$	45
8	86477	26.40	87477	26.40	12 $\frac{1}{4}$	21 $\frac{3}{4}$	3 $\frac{3}{4}$	50
10	86479	29.00	87479	29.00	12 $\frac{1}{4}$	24 $\frac{3}{4}$	3 $\frac{3}{4}$	56

3-wire Mains, 125 Volts

4	86573	21.00	87573	21.00	12 $\frac{1}{4}$	15 $\frac{3}{4}$	3 $\frac{3}{4}$	40
6	86575	23.70	87575	23.70	12 $\frac{1}{4}$	18 $\frac{3}{4}$	3 $\frac{3}{4}$	45
8	86577	27.40	87577	27.40	12 $\frac{1}{4}$	21 $\frac{3}{4}$	3 $\frac{3}{4}$	50
10	86579	30.40	87579	30.40	12 $\frac{1}{4}$	24 $\frac{3}{4}$	3 $\frac{3}{4}$	56



Type SPP Panel  
With 3-wire Mains

## TYPE SPP

Mains, 2 or 3-wire, 125 Volts, with Lugs in Mains Only  
Branches—With 20-ampere Push Switches Arranged for Edison  
Plug Fuses

2-wire Mains, 125 Volts

4	86673	28.60	87673	28.60	17 $\frac{3}{4}$	15 $\frac{3}{4}$	3 $\frac{3}{4}$	55
6	86675	34.90	87675	34.90	17 $\frac{3}{4}$	18 $\frac{3}{4}$	3 $\frac{3}{4}$	63
8	86677	41.70	87677	41.70	17 $\frac{3}{4}$	18 $\frac{3}{4}$	3 $\frac{3}{4}$	72
10	86679	47.30	87679	47.30	17 $\frac{3}{4}$	18 $\frac{3}{4}$	3 $\frac{3}{4}$	80

3-wire Mains, 125 Volts

4	86773	29.00	87773	29.00	17 $\frac{3}{4}$	15 $\frac{3}{4}$	3 $\frac{3}{4}$	55
6	86775	35.70	87775	35.70	17 $\frac{3}{4}$	18 $\frac{3}{4}$	3 $\frac{3}{4}$	63
8	86777	42.80	87777	42.80	17 $\frac{3}{4}$	21 $\frac{3}{4}$	3 $\frac{3}{4}$	72
10	86779	48.80	87779	48.80	17 $\frac{3}{4}$	24 $\frac{3}{4}$	3 $\frac{3}{4}$	80

## TYPE SPK

Mains, 2 or 3-wire, 125 Volts, with Lugs in Mains Only  
Branches—With 30-ampere Knife Switches Arranged for Edison  
Plug Fuses

2-wire Mains, 125 Volts

4	86873	24.60	87873	24.60	17 $\frac{3}{4}$	15 $\frac{3}{4}$	3 $\frac{3}{4}$	55
6	86875	28.90	87875	28.90	17 $\frac{3}{4}$	18 $\frac{3}{4}$	3 $\frac{3}{4}$	63
8	86877	33.70	87877	33.70	17 $\frac{3}{4}$	21 $\frac{3}{4}$	3 $\frac{3}{4}$	72
10	86879	37.30	87879	37.30	17 $\frac{3}{4}$	24 $\frac{3}{4}$	3 $\frac{3}{4}$	80

3-wire Mains, 125 Volts

4	86973	25.00	87973	25.00	17 $\frac{3}{4}$	15 $\frac{3}{4}$	3 $\frac{3}{4}$	55
6	86975	29.70	87975	29.70	17 $\frac{3}{4}$	18 $\frac{3}{4}$	3 $\frac{3}{4}$	63
8	86977	34.80	87977	34.80	17 $\frac{3}{4}$	21 $\frac{3}{4}$	3 $\frac{3}{4}$	72
10	86979	38.80	87979	38.80	17 $\frac{3}{4}$	24 $\frac{3}{4}$	3 $\frac{3}{4}$	80



Type SPK Panel  
With 3-wire Mains



## BENJAMIN-STARRETT PANEL BOARDS

## PANELS WITH METER LOOPS

ADDITIONAL LIST PRICES TO BE ADDED TO LIST PRICES OF PANELS  
WITH CABINETS

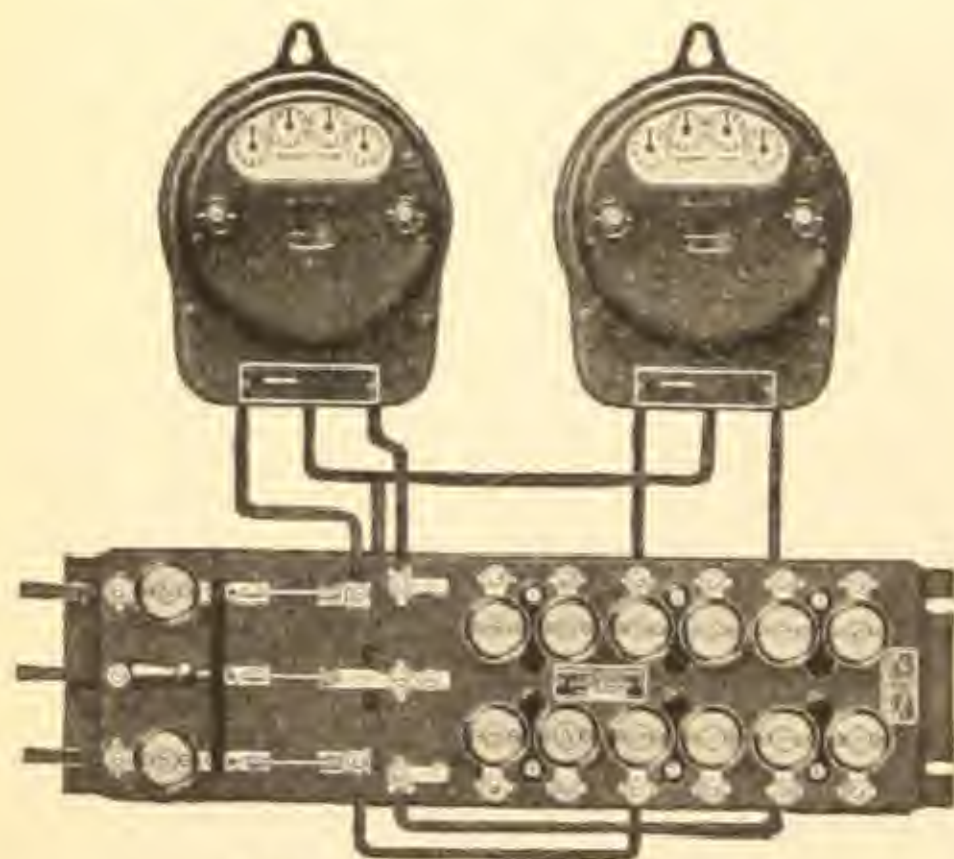
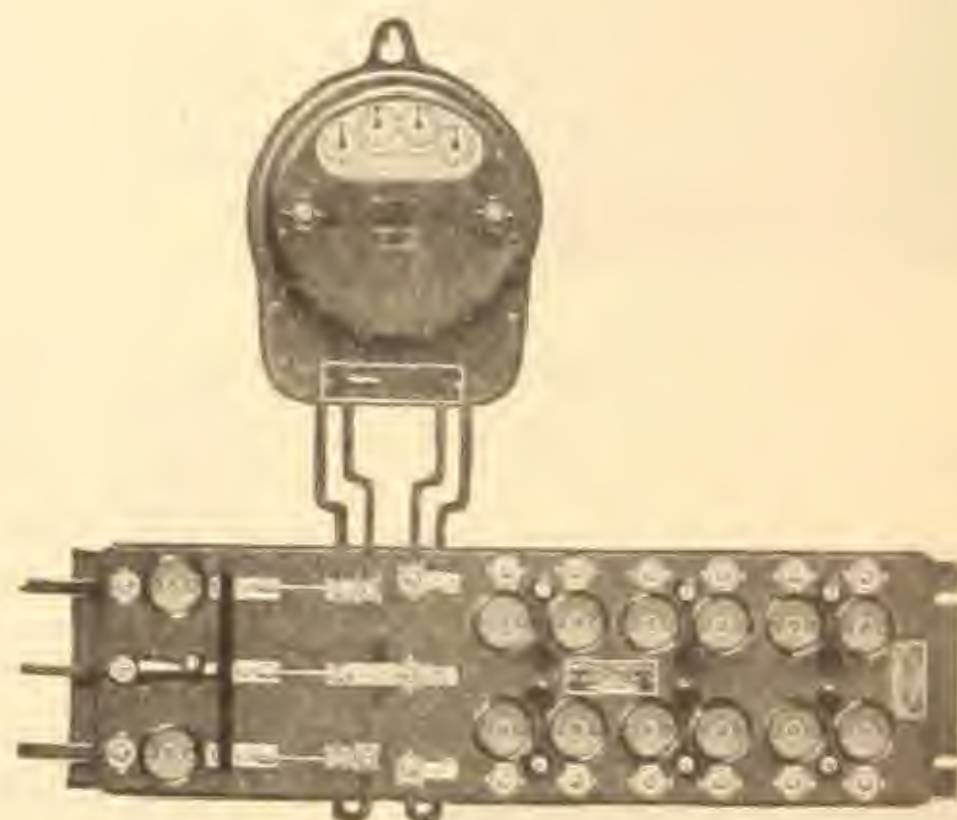
For 2 Wire Panels

Standard Capacity Main Connections Amperes	Additional Prices
30	\$2.60
60	2.90
100	3.40
200	5.20
400	8.90



For 3 Wire Panels

Standard Capacity Main Connections Amperes	Additional Prices
30	\$2.80
60	3.10
100	3.70
200	5.50
400	9.20

For Three Wire Panel  
Two MetersFor Three Wire Panel  
One Meter

## DIRECTORY FRAMES

Metal directory frames will be furnished in two sizes on special order, attached to the door of any panel at the following list prices:

3x5 inches, \$1.50; 6x8 inches, \$2.25.

The card is used as a circuit directory or as a diagram of the wiring system served by the panel.



## BENJAMIN-STARRETT RESIDENCE PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD



Type RDF Dead Front Residence  
Panel in Flush Cabinet

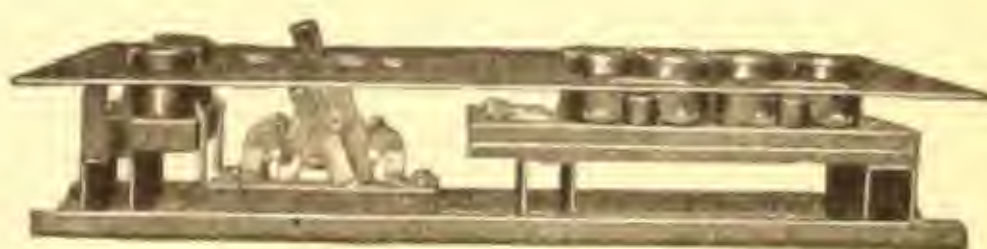
This line was designed to meet the growing demand for a positively safe residence panel for the protection of those who, having little or no knowledge of electrical equipment, fear to change a fuse or throw a switch.

The dead front panels listed on the following page are safe and easy to operate. This line has a ruggedness of structure and finished appearance which have met the approval of engineers and contractors.

Benjamin-Starrett Residence Panels are suitable as main distributing centers in most dwellings or as sub-centers of distribution in the very large residences.



Panel Board with Dead-front  
Removed—Top View



Panel Board with Dead-front in  
Position—Side View

### Specifications

RANGE.—2 to 10 circuits.

BASES.—Molded, strong, fireproof, of high dielectric strength and unaffected by heat, moisture, oils or acids. Finish, dead black.

BRANCHES.—Have capacity of 660 watts each and are equipped with Edison Plug Fuse Receptacles.

BRANCH SWITCHES.—Push and tumbler switches have 20-ampere capacity and knife switches 30 ampere capacity.

CABINETS.—Made of sheet steel N. E. C. specification thickness. Finish, black.

KNOCKOUTS.—A sufficient number of  $\frac{1}{2}$ -inch knockouts provided.

METAL SHIELD.—In Types RDL and RDF a heavy metal shield covers the front of the panel leaving accessible only the fuse receptacles and in the case of RDF, the main switch handle.

WEIGHT AND SIZE.—These panel boards weigh less than 50 per cent of any corresponding size and type of slate panel board. In square inches of space occupied they are, circuit for circuit, the smallest panel boards made.

NUMBERING.—Each branch circuit has either a number plate or card holder.

Types ROL and ROF in surface type cabinets have  $1\frac{1}{2}$ -inch wiring space on 4 sides and in flush cabinets have 3-inch wire gutter on four sides.

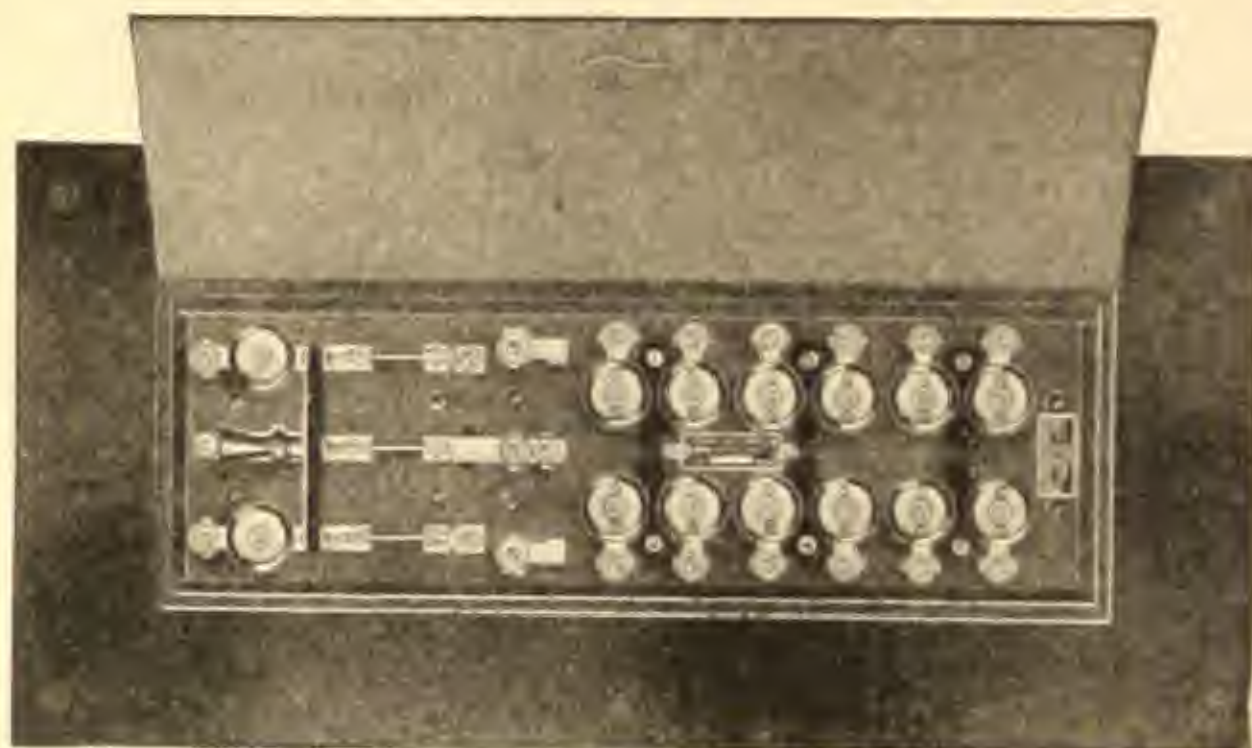
Types RDL and RDF have abundant wiring space between the base and the back of the box and also between the mounting plate and the sides of the box.



## BENJAMIN-STARRETT RESIDENCE PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

### OPEN FRONT



Type ROF in Flush Cabinet



Type ROL in Surface Cabinet

### TYPE ROF

Mains—2 or 3-wire, 125 Volts, with Fusible Knife Switch in Mains  
Branches—2-wire, are Arranged for Edison Plug Fuses Only

#### 2-wire Mains, 125 Volts

No. of Cir.	Capacity Main Connect. Amps.	Panel with				BOX DIMENSIONS, IN.			Approx. Ship. Wt., Lbs.
		Surface Cabinet Flanged Door	Price Each	Flush Cabinet Plain Front	Price Each				
		Mfrs. No.		Mfrs. No.		Width Outside	Height Outside	Depth Inside	
2	30	76471	\$12.70	77471	\$16.50	15	8½	3¾	32
3	30	76472	12.90	77472	16.70	18	8½	3¾	39
4	30	76473	14.50	77473	18.50	18	8½	3¾	39
5	30	76474	15.60	77474	19.70	21	8½	3¾	46

#### 3-wire Mains, 125 Volts

4	30	76573	17.20	77573	21.10	18	8½	3¾	39
6	30	76575	17.50	77575	21.40	21	8½	3¾	46
8	30	76577	20.00	77577	24.20	24	8½	3¾	53
10	30	76579	22.10	77579	26.30	27	8½	3¾	60

### TYPE ROL

Mains—2 or 3-wire, 125 Volts, with Lugs in Mains Only  
Branches—2-wire, are Arranged for Edison Plug Fuses Only

#### 2-wire Mains, 125 Volts

No. of Cir.	Capacity Main Connect. Amps.	Panel with				BOX DIMENSIONS, IN.			Approx. Ship. Wt., Lbs.
		Surface Cabinet Flanged Door	Price Each	Flush Cabinet Plain Front	Price Each				
		Mfrs. No.		Mfrs. No.		Width Outside	Height Outside	Depth Inside	
4	30	76673	\$11.60	77673	\$15.60	8½	12	3¾	25
6	30	76675	13.70	77675	17.70	8½	15	3¾	32
8	30	76677	16.10	77677	20.10	8½	18	3¾	39
10	30	76679	18.00	77679	22.00	8½	21	3¾	46

#### 3-wire, Mains, 125 Volts

4	30	76773	11.80	77773	15.80	8½	12	3¾	25
6	30	76775	13.90	77775	17.90	8½	15	3¾	32
8	30	76777	16.40	77777	20.40	8½	18	3¾	39
10	30	76779	18.40	77779	22.40	8½	21	3¾	46



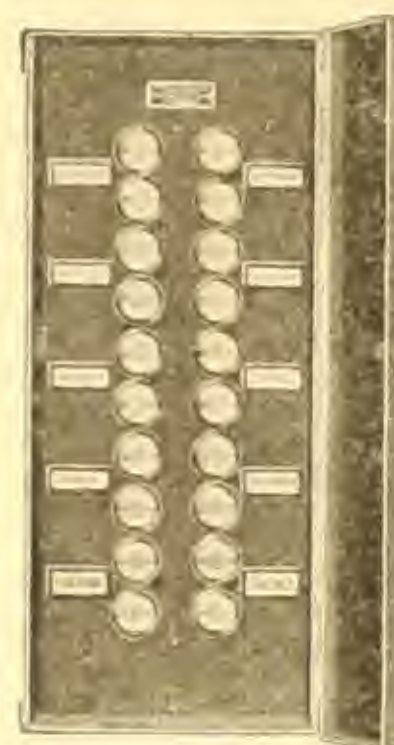
# BENJAMIN-STARRETT RESIDENCE PANEL BOARDS

NATIONAL ELECTRICAL CODE STANDARD

DEAD FRONT



Type RDF-In Flush Cabinet



Type RDL-In Surface Cabinet

## TYPE RDF

Mains—2 or 3-wire, 125 Volts, with Fusible Tumbler Switch in Main<sup>e</sup>  
Branches—2-wire, are Arranged for Edison Plug Fuses Only

2-wire Mains, 125 Volts

No. of Cir.	Capacity Main Connect. Amps.	Panel with		Panel with		Box DIMENSIONS, IN.			Approx. Ship. Wt., lbs.
		Surface Cabinet Flanged Door	Price Each	Flush Cabinet Plain Front	Price Each	Width Outside	Height Outside	Depth Inside	
2	30	78471	\$15.30	79471	\$19.80	16½	8¼	4½	34
3	30	78472	15.50	79472	20.00	19½	8¼	4½	41
4	30	78473	17.40	79473	22.20	19½	8¼	4½	41
6	30	78474	18.70	79474	23.60	22½	8¼	4½	48

3-wire Mains, 125 Volts

4	30	78573	20.60	79573	25.30	19½	8¼	4½	41
6	30	78575	21.00	79575	25.70	22½	8¼	4½	48
8	30	78577	24.00	79577	29.00	25½	8¼	4½	55
10	30	78579	26.50	79579	31.60	28½	8¼	4½	62

## TYPE RDL

Mains—2 or 3-wire, 125 Volts, with Lugs in Mains Only  
Branches—2-wire, are Arranged for Edison Plug Fuses Only

2-wire Mains, 125 Volts

No. of Cir.	Capacity Main Connect. Amps.	Panel with		Panel with		Box DIMENSIONS, IN.			Approx. Ship. Wt., lbs.
		Surface Cabinet Flanged Door	Price Each	Plain Front Flush Cabinet	Price Each	Width Outside	Height Outside	Depth Inside	
4	30	78673	\$13.90	79673	\$18.80	12	8½	3¾	27
6	30	78675	16.50	79675	20.30	15	8½	3¾	34
8	30	78677	19.40	79677	24.20	18	8½	3¾	41
10	30	78679	21.60	79679	26.40	21	8½	3¾	48

3-wire Mains, 125 Volts

4	30	78773	14.20	79773	19.00	12	8½	3¾	27
6	30	78775	16.70	79775	21.50	15	8½	3¾	34
8	30	78777	19.70	79777	24.50	18	8½	3¾	41
10	30	78779	22.10	79779	26.90	21	8½	3¾	48



## BENJAMIN-STARRETT PANEL CUT-OUTS

## NATIONAL ELECTRICAL CODE STANDARD



2-wire Panel Cut-out

A unit center of distribution that may be installed more cheaply, more quickly and more neatly than a porcelain block cut-out.

The panel cutout is installed as a single unit. There is no assembly labor on the job; the only work necessary is to put in four mounting screws and attach main and branch wires. The whole panel cut-out installation is completed before a man working with porcelain blocks has had time to assemble his feed wires.

In renewing fuses the Benjamin-Starrett Panel Cut-out provides safety for the inexperienced person because all live parts except terminals are buried in the base. The operation is made simple because the circuits are identified at once by the numbers.

A complete installation consists of any standard cut-out box, a standard knife switch of the required capacity and a panel cut-out. All of these can be supplied quickly from stock.

The finished job is a handsome, mechanically correct piece of work and offers the greatest possible contrast to one made of porcelain blocks. It is a standing recommendation for the contractor who puts it in.

## Specifications

BASES.—Molded of high-grade, fireproof composition.

BUS-BARS.—Of hard drawn copper, concealed in base.

MAINS.—2 or 3 wire, 125 volts, with Lugs only in Mains.

BRANCHES.—2-wire Edison Plug Fuse Receptacles of black glazed porcelain.

FINISH.—Bases dead black; terminals bright copper, lacquered.

## TYPE BP PANEL CUT-OUTS

## 2-wire Mains, 125 Volts

No. of Branch Cir.	Capacity Mains Connections Amperes	DIMENSIONS, IN.		Depth Cabinet Required Inches	Std. Pkg.	Mfrs. No.	Price Each
		Width	Height				
4	30	5 $\frac{1}{8}$	8 $\frac{5}{8}$	3 $\frac{1}{2}$	6	59204	\$4.20
6	60	5 $\frac{1}{8}$	11 $\frac{1}{8}$	3 $\frac{1}{2}$	6	59206	5.10
8	60	5 $\frac{1}{8}$	14 $\frac{5}{8}$	3 $\frac{1}{2}$	6	59208	6.40
10	60	5 $\frac{1}{8}$	17 $\frac{5}{8}$	3 $\frac{1}{2}$	6	59210	7.50

## 3-wire Mains, 125 Volts

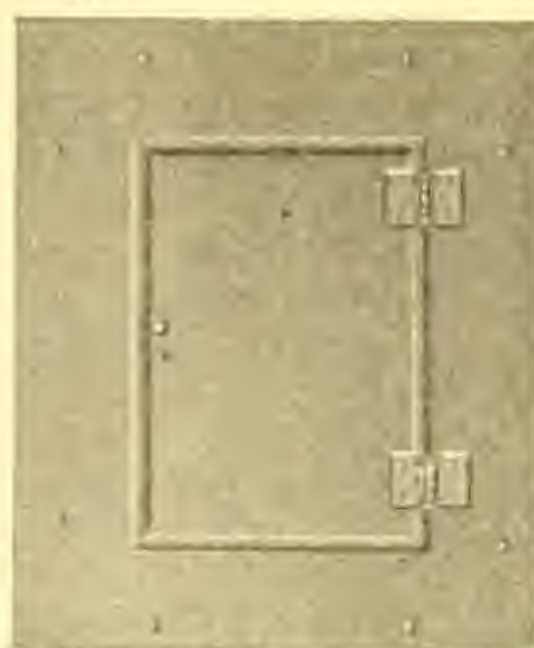
No. of Branch Cir.	Capacity Mains Connections Amperes	Width	Height	Depth Cabinet Required Inches	Std. Pkg.	Mfrs. No.	Price Each
4	30	5 $\frac{1}{8}$	8 $\frac{5}{8}$	3 $\frac{1}{2}$	6	59304	4.20
6	30	5 $\frac{1}{8}$	11 $\frac{1}{8}$	3 $\frac{1}{2}$	6	59306	5.10
8	30	5 $\frac{1}{8}$	14 $\frac{5}{8}$	3 $\frac{1}{2}$	6	59308	6.40
10	30	5 $\frac{1}{8}$	17 $\frac{5}{8}$	3 $\frac{1}{2}$	6	59310	7.50



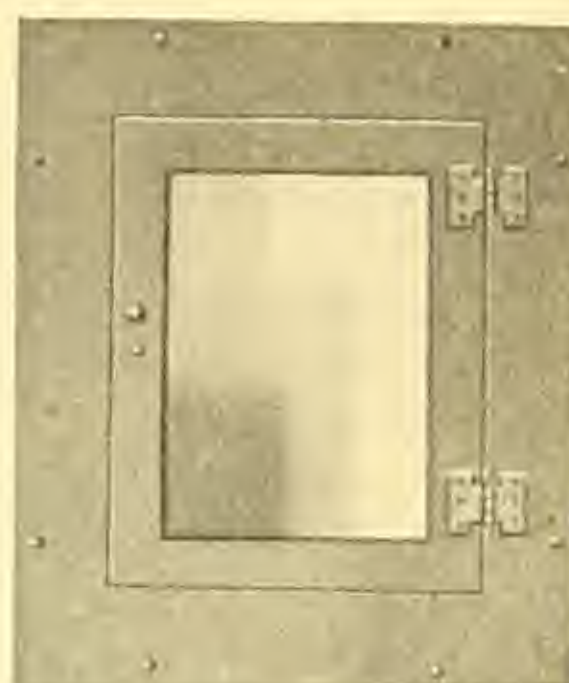
DOORS AND TRIMS  
FOR TYPE E STEEL BOXES



Type A



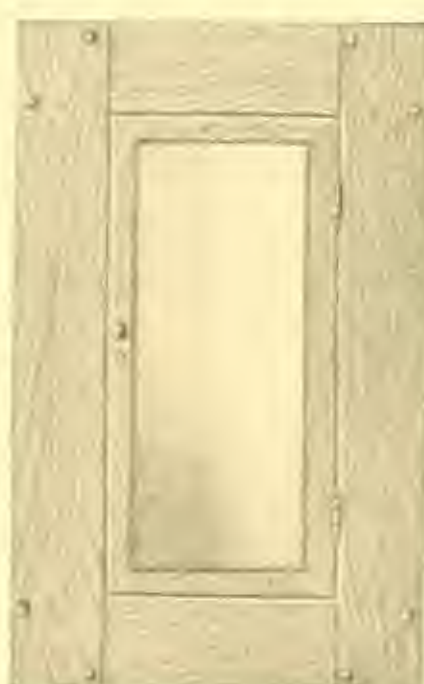
Type B



Type C



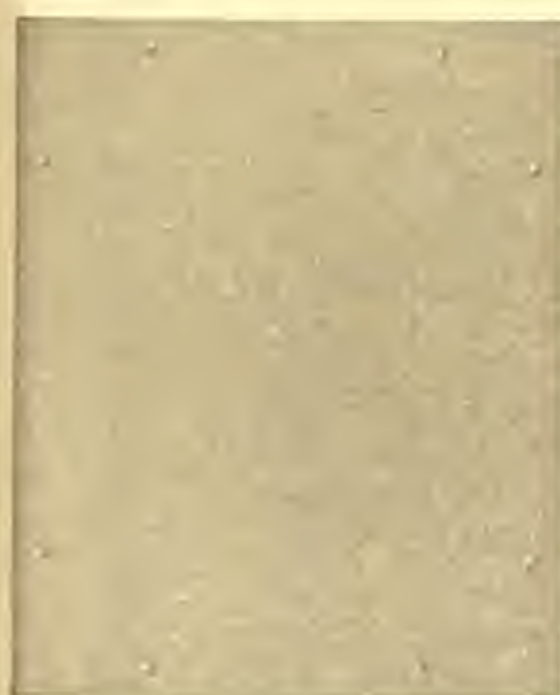
Type D



Type E



Type F



Type G



Type H



Type I



Type J



Type O



Type Q



## TYPE E STEEL BOXES



## For Flush and Surface Work

These boxes are formed from one piece of steel, the covers of the bodies are folded in and securely riveted. The covers lap over the edge of the bodies on all four sides, making the boxes absolutely dustproof. Standard finish, black japan.

In ordering, please state:

Size of box.

On which side is the cover to open? (Standard, long, side.)

Depth.

Style trims

Gauge—16, 14, 12 or 10.

Flush or surface.

Slanted top

Locks and keys.

Hinges, brass or iron.

Special wood imitation.

Special drilling.

Width Length		Depth, Inches										Gauge
In.	In.	3	4	5	6	7	8	9	10	11	12	
4	4	\$0.80	\$0.85	\$0.90							\$4.40	16
4	6	.85	.90	.95							4.50	16
4	8	.90	.95	1.00							4.60	16
4	10	.95	1.00	1.05							4.70	16
6	6	.85	.95	1.05	1.45						4.20	16
6	8	.95	1.05	1.15	1.55						4.30	16
6	10	1.05	1.15	1.25	1.65						4.40	16
6	12	1.15	1.25	1.35	1.75						4.50	16
6	14	1.25	1.35	1.45	1.85						4.70	16
6	16	1.35	1.45	1.55	1.95						4.90	16
6	18	1.45	1.55	1.85	2.05						5.20	16
8	8	1.05	1.10	1.20	1.60	2.10	2.60				4.70	16
8	10	1.10	1.20	1.30	1.70	2.20	2.70				4.80	16
8	12	1.20	1.30	1.40	1.80	2.30	2.80				4.90	16
8	14	1.30	1.40	1.50	1.90	2.40	2.90				5.00	16
8	16	1.40	1.50	1.60	2.00	2.50	3.00				5.20	16
8	18	1.50	1.60	1.70	2.10	2.70	3.30				5.40	16
8	20	1.60	1.70	1.80	2.20	2.80	3.40				5.60	16
8	24	1.70	1.80	1.90	2.30	2.90	3.50				5.80	16
8	26	2.10	2.20	2.40	2.80	3.40	3.90				6.00	16
10	10	1.20	1.30	1.40	1.80	2.30	2.80	3.30	3.80	4.30	4.80	16
10	12	1.30	1.40	1.50	1.90	2.40	2.90	3.40	3.90	4.40	4.90	16
10	14	1.40	1.50	1.60	2.00	2.50	3.00	3.50	4.00	4.50	5.00	16
10	16	1.50	1.60	1.70	2.10	2.60	3.10	3.60	4.10	4.60	5.10	16
10	18	1.60	1.70	1.80	2.20	2.80	3.40	4.00	4.60	5.20	5.80	16
10	20	1.70	1.80	1.90	2.30	2.90	3.50	4.10	4.70	5.30	5.90	16
10	24	1.90	2.00	2.10	2.50	3.00	3.60	4.20	4.90	5.40	6.00	16
10	26	2.50	2.80	3.10	3.50	4.50	5.10	5.70	6.30	6.90	7.80	14
10	28	3.00	3.30	3.60	3.90	4.90	5.50	6.10	6.70	7.30	7.90	14
10	30	3.60	3.90	4.20	4.50	5.50	6.10	6.70	7.30	7.90	8.50	14
12	12	1.40	1.50	1.60	2.00	2.50	3.00	3.50	4.00	4.50	5.00	16
12	14	1.50	1.60	1.70	2.10	2.60	3.10	3.60	4.10	4.60	5.10	16
12	16	1.60	1.70	1.80	2.20	2.70	3.20	3.70	4.20	4.80	5.30	16
12	18	1.70	1.80	1.90	2.30	2.90	3.50	4.10	4.70	5.30	5.90	16
12	20	1.80	1.90	2.00	2.40	3.00	3.60	4.20	4.80	5.40	6.05	16
12	24	2.00	2.10	2.20	2.60	3.20	3.80	4.30	5.00	5.60	6.15	16
12	26	3.00	3.30	3.60	3.90	4.90	5.50	6.10	6.70	7.30	7.90	14
12	28	3.60	3.90	4.20	4.50	5.50	6.10	6.70	7.30	7.90	8.50	14
12	30	4.20	4.50	4.80	5.10	6.10	6.70	7.30	7.90	8.50	9.10	14
12	36	6.00	6.30	6.60	6.90	7.90	8.50	9.10	9.70	10.30	10.90	14
12	42	7.80	8.10	8.40	8.70	9.70	10.30	10.90	11.50	12.10	12.70	14
12	48	9.60	9.90	10.20	10.50	11.50	12.10	12.70	13.30	13.90	14.50	14

All Type E Boxes have  $\frac{3}{8}$ -inch knockouts and doors hinged on longside. Nickel-plated knobs furnished.



# TYPE E STEEL BOXES

## For Flush and Surface Work

To meet the Underwriters' requirements, boxes must be made of No. 16 gauge, and those with an area greater than 360 square inches or with a single dimension greater than 24 inches must be made of No. 14 gauge; those having any area greater than 1200 square inches or with a single dimension greater than 54 inches must be made of No. 12 gauge.

Width Length		DEPTH, INCHES										Gauge
In.	In.	3	4	5	6	7	8	9	10	11	12	
16	16	\$1.80	\$1.90	\$2.00	\$2.40	\$2.90	\$3.40	\$3.90	\$4.30	\$4.90	\$5.40	16
16	18	1.90	2.00	2.10	2.50	3.00	3.60	4.20	4.90	5.40	6.00	16
16	20	2.00	2.10	2.20	2.60	3.10	3.70	4.30	5.00	5.50	6.20	16
16	24	2.90	3.15	3.40	3.65	4.65	5.25	5.85	6.45	7.05	7.65	14
16	26	3.40	3.65	3.90	4.15	5.15	5.75	6.35	6.95	7.55	8.15	14
16	28	4.00	4.30	4.60	4.90	5.90	6.50	7.10	7.70	8.30	8.90	14
16	30	4.60	4.90	5.20	5.50	6.50	7.10	7.70	8.30	8.90	9.50	14
16	34	5.80	6.10	6.40	6.70	7.70	8.30	8.90	9.50	10.10	10.70	14
16	36	6.40	6.70	7.00	7.30	8.30	8.90	9.50	10.10	10.70	11.30	14
16	42	8.20	8.50	8.80	9.10	10.10	10.70	11.30	11.90	12.50	13.10	14
16	48	10.00	10.30	10.60	10.90	11.90	12.50	13.10	13.70	14.30	14.90	14
18	18	2.25	2.50	2.75	3.00	4.00	4.50	5.00	5.50	6.00	6.50	16
18	20	2.50	2.75	3.00	3.25	4.25	4.75	5.25	5.75	6.25	6.75	16
18	24	3.30	3.55	3.80	4.05	6.05	6.55	7.05	7.55	8.05	8.55	14
18	26	3.80	4.05	4.30	4.55	6.55	7.05	7.55	8.05	8.55	9.05	14
18	28	4.30	4.55	4.80	5.05	7.05	7.55	8.05	8.55	9.05	9.55	14
18	30	4.90	5.15	5.40	5.65	7.65	8.25	8.85	9.45	10.05	10.65	14
18	34	6.10	6.35	6.60	6.85	8.85	9.45	10.05	10.65	11.25	11.85	14
18	36	6.70	6.95	7.20	7.45	9.45	10.05	10.65	11.25	11.85	12.45	14
18	42	8.50	8.75	9.00	9.25	11.25	11.85	12.45	13.05	13.65	14.25	14
18	48	10.30	10.55	10.80	11.05	13.05	13.65	14.25	14.85	15.45	16.05	14
21	20	3.95	4.20	4.45	4.65	6.65	7.15	7.65	8.15	8.65	9.15	14
21	24	4.95	5.20	5.45	5.70	7.70	8.20	8.70	9.20	9.70	10.20	14
21	28	5.95	6.20	6.45	6.70	8.70	9.20	9.70	10.20	10.70	11.20	14
21	30	6.45	6.70	6.95	7.20	9.20	9.70	10.20	10.70	11.20	11.70	14
21	34	7.65	7.95	8.25	8.55	10.55	11.15	11.75	12.35	12.95	13.55	14
21	36	8.25	8.55	8.85	9.15	11.15	11.75	12.35	12.95	13.55	14.15	14
21	42	10.05	10.35	10.65	10.95	12.95	13.55	14.15	14.75	15.35	15.95	14
21	48	11.90	12.20	12.50	12.80	14.80	15.40	16.00	16.60	17.20	17.80	14
24	24	5.15	5.40	5.65	5.90	7.90	8.40	8.90	9.40	9.90	10.40	14
24	28	6.15	6.40	6.65	6.90	8.90	9.40	9.90	10.40	10.90	11.40	14
24	30	6.65	6.90	7.15	7.65	9.65	10.10	10.60	11.10	11.60	12.10	14
24	36	8.45	8.75	9.05	9.35	11.35	11.95	12.55	13.15	13.75	14.35	14
24	42	10.25	10.55	10.85	11.15	13.15	13.75	14.35	14.95	15.55	16.15	14
24	48	12.80	13.10	13.40	13.70	15.70	16.30	16.90	17.50	18.10	18.70	14
30	30	8.45	8.70	8.95	9.20	11.20	11.70	12.20	12.70	13.20	13.70	14
30	32	8.95	9.20	9.45	9.70	11.70	12.20	12.70	13.20	13.70	14.20	14
30	36	10.50	10.75	11.00	11.25	13.25	13.75	14.25	14.75	15.25	15.75	14
30	38	11.00	11.30	11.60	11.90	13.90	14.50	15.10	15.70	16.30	16.90	14
30	40	11.90	12.20	12.50	12.80	14.80	15.40	16.00	16.60	17.20	17.80	14

A charge of 50 cents per order will be made for each size of knockouts other than  $\frac{1}{8}$  inch. special pipe drilling, 10 cents per hole net. Always send sketch giving location of holes so as to avoid errors and possible delays in securing this information.

## ADDITIONS TO LIST

- Self-closing brass spring hinges, \$1.80 per pair.
- Plain locks, \$1.00 each.
- Brass cabinet cylinder locks, \$1.60 each.
- Brass cabinet cylinder locks with knob attachment to lock door without key, \$3.00 each
- For vault handles, \$2.00.
- For No. 14 gauge steel, 25 per cent.
- For No. 12 gauge steel, 70 per cent.
- For No. 10 gauge steel, 100 per cent.
- Slant top weatherproof boxes, 50 per cent extra.
- Deduct 10 per cent for pull or junction and flush boxes without covers.

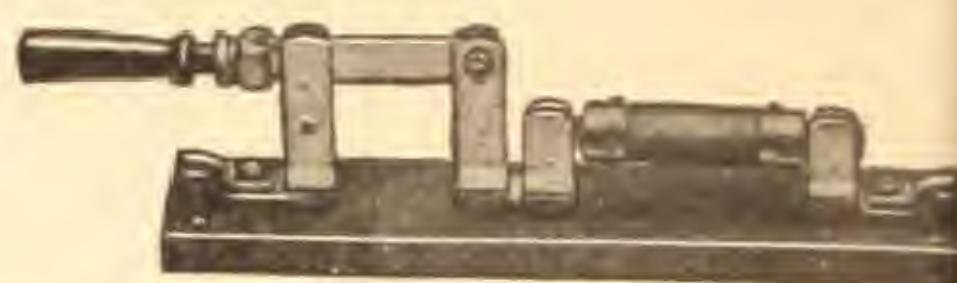


## PUNCHED CLIP KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 AND 600 VOLTS

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON OILED SLATE BASE

SINGLE-POLE, SINGLE-THROW



## 250 VOLTS

## No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540890	\$0.42
60	540891	.74
100	540892	1.50
200	540893	2.70

## Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540898	\$0.70
60	540899	1.18
100	540900	2.38
200	540901	4.40

## 600 VOLTS—WITH QUICK BREAK BLADES

30	540902	1.08
60	540903	1.20
100	540904	2.16
200	540905	4.20

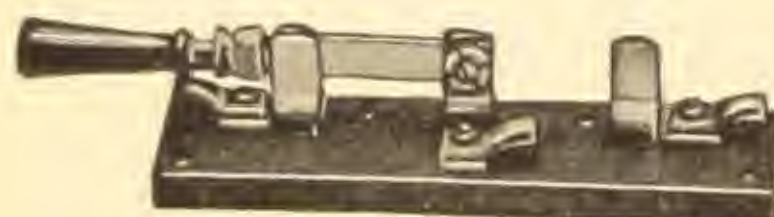
30	540910	1.70
60	540911	1.96
100	540912	3.60
200	540913	6.50

## 600 VOLTS—WITHOUT QUICK BREAK BLADES

30	540914	.80
60	540915	.96
100	540916	1.90

30	540920	1.40
60	540921	1.70
100	540922	3.25

## SINGLE-POLE, DOUBLE-THROW



## 250 VOLTS

## No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540923	\$0.76
60	540924	1.30
100	540925	2.94
200	540926	4.88

## Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540927	\$1.54
60	540928	2.38
100	540929	5.18
200	540930	9.80

## 600 VOLTS—WITHOUT QUICK BREAK BLADES

30	540931	1.66
60	540932	1.90
100	540933	3.90

30	540934	3.90
60	540935	3.75
100	540936	7.50

Fuses are not included in above prices.

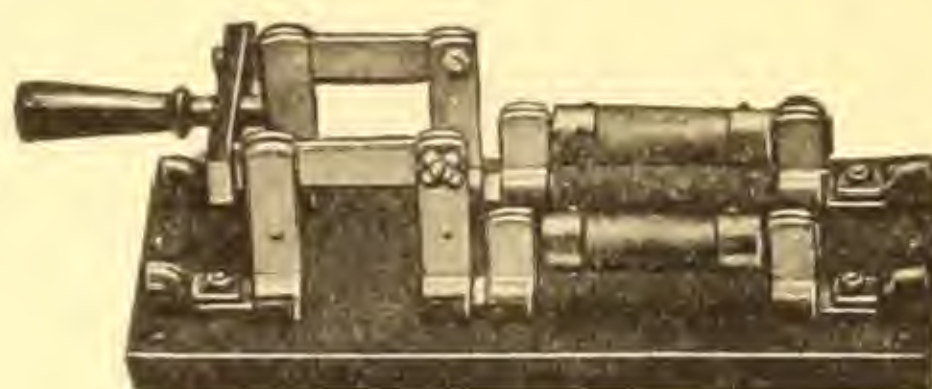
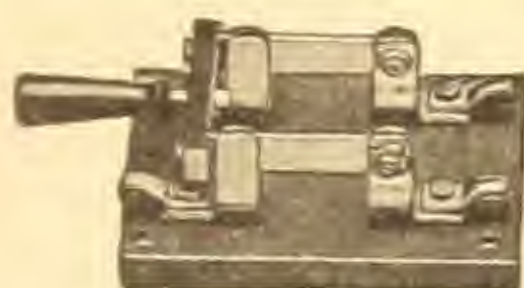


## PUNCHED CLIP KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 AND 600 VOLTS

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON OILED SLATE BASE

DOUBLE-POLE, SINGLE-THROW



### 250 VOLTS

#### No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540937	\$0.68
60	540938	1.22
100	540939	2.50
200	540940	4.50

#### Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540945	\$1.06
60	540946	1.80
100	540947	3.66
200	540948	6.76

### 600 VOLTS—WITH QUICK BREAK BLADES

30	540949	1.80
60	540950	2.00
100	540951	3.60
200	540952	7.00

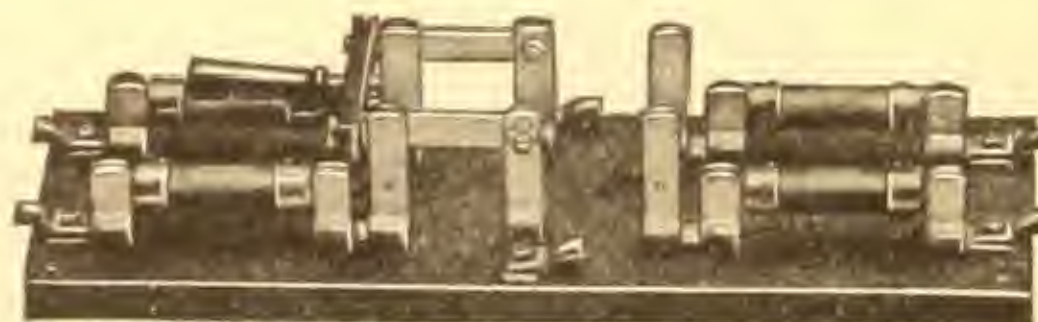
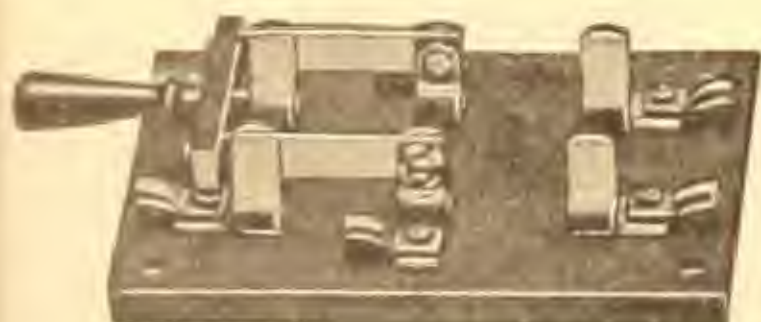
30	540957	2.60
60	540958	3.00
100	540959	5.50
200	540960	10.00

### 600 VOLTS—WITHOUT QUICK BREAK BLADES

30	540961	1.34
60	540962	1.60
100	540963	3.16

30	540967	2.20
60	540968	2.60
100	540969	5.00

DOUBLE-POLE, DOUBLE-THROW



### 250 VOLTS

#### No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540970	\$1.16
60	540971	2.00
100	540972	4.50
200	540973	7.50

#### Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540974	\$2.20
60	540975	3.40
100	540976	7.40
200	540977	13.00

### 600 VOLTS—WITHOUT QUICK BREAK BLADES

30	540978	2.20
60	540979	2.60
100	540980	5.20

30	540981	4.40
60	540982	5.00
100	540983	10.00

Fuses are not included in above prices.

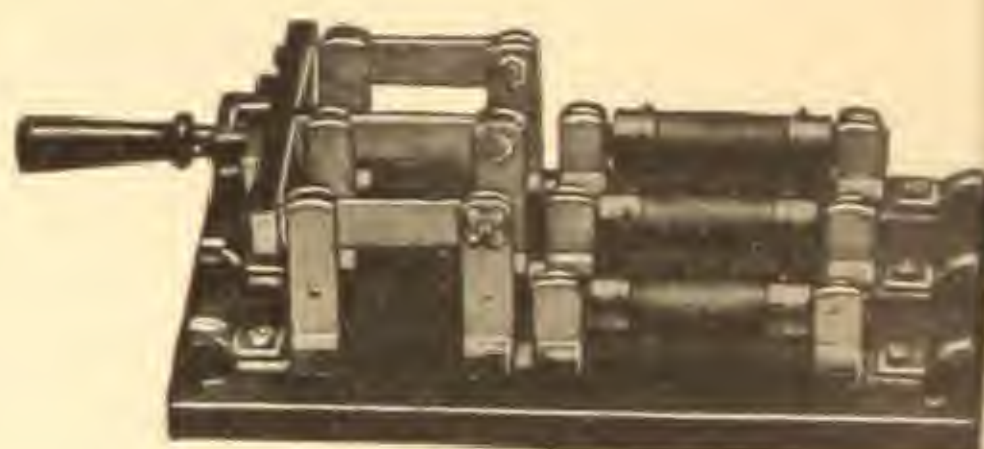
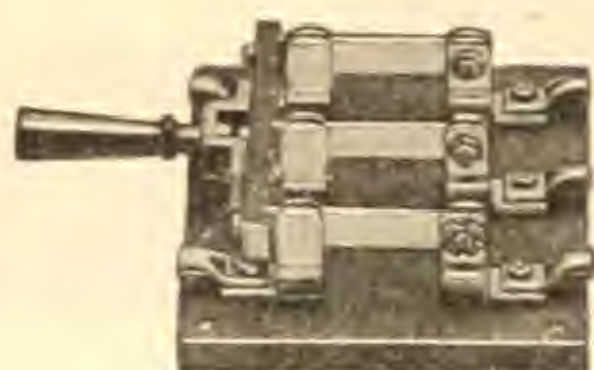


## PUNCHED CLIP KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 AND 600 VOLTS

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON OILED SLATE BASE

THREE-POLE, SINGLE-THROW



250 VOLTS

No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540984	\$1.02
60	540985	1.84
100	540986	3.76
200	540987	6.76

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540992	\$1.60
60	540993	2.70
100	540994	5.50
200	540995	10.14

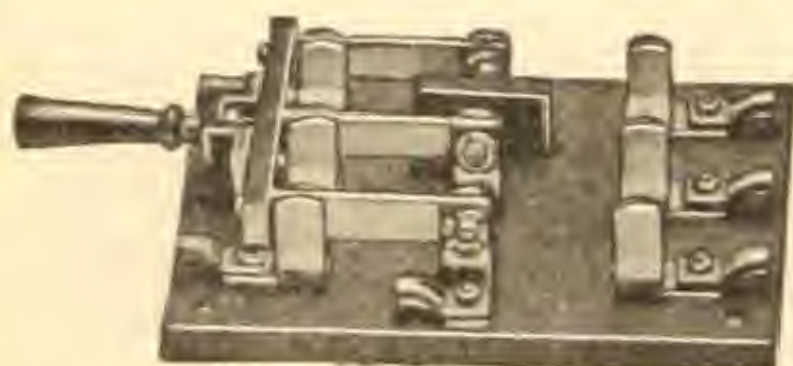
600 VOLTS—WITH QUICK BREAK BLADES

Capacity Amperes	Trade No.	Price Each	Capacity Amperes	Trade No.	Price Each
30	540996	2.80	30	541004	4.16
60	540997	3.10	60	541005	4.80
100	540998	5.60	100	541006	8.80
200	540999	10.86	200	541007	16.00

600 VOLTS—WITHOUT QUICK BREAK BLADES

Capacity Amperes	Trade No.	Price Each	Capacity Amperes	Trade No.	Price Each
30	541008	2.10	30	541014	3.50
60	541009	2.50	60	541015	4.16
100	541010	4.90	100	541016	8.00

THREE-POLE, DOUBLE-THROW



250 VOLTS

No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	541017	\$1.80
60	541018	3.10
100	541019	6.90
200	541020	11.60

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	541021	\$3.52
60	541022	5.44
100	541023	11.84
200	541024	20.80

600 VOLTS—WITHOUT QUICK BREAK BLADES

Capacity Amperes	Trade No.	Price Each	Capacity Amperes	Trade No.	Price Each
30	541025	3.70	30	541028	7.26
60	541026	4.30	60	541029	8.25
100	541027	8.60	100	541030	16.50

Fuses are not included in above prices.

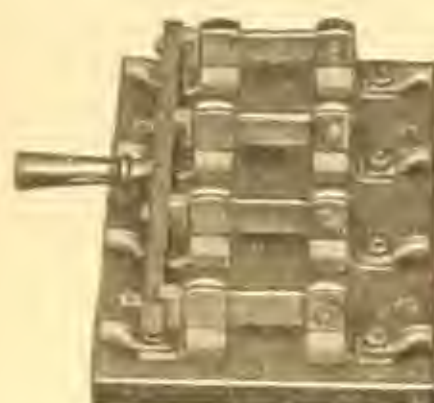


## PUNCHED CLIP KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 AND 600 VOLTS

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON OILED SLATE BASE

FOUR-POLE, SINGLE-THROW



250 VOLTS

No Fuse, Regular Jaws		
Capacity Amperes	Trade No.	Price Each
30	541031	\$1.36
60	541032	2.44
100	541033	5.00
200	541034	9.00

Fused, High Jaws		
Capacity Amperes	Trade No.	Price Each
30	541039	\$2.12
60	541040	3.60
100	541041	7.30
200	541042	13.50

600 VOLTS—WITH QUICK BREAK BLADES

30	541043	3.80
60	541044	4.20
100	541045	7.50
200	541046	14.70

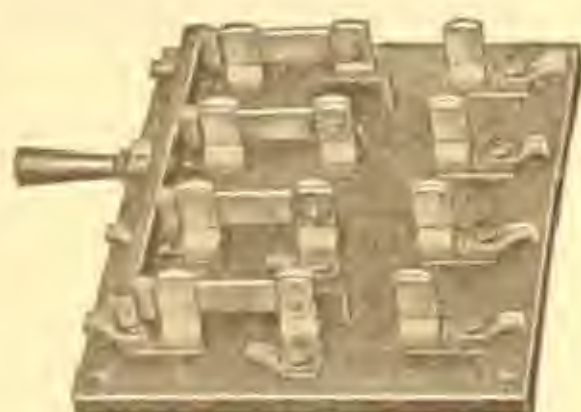
30	541051	5.70
60	541052	6.60
100	541053	12.00
200	541054	22.00

600 VOLTS—WITHOUT QUICK BREAK BLADES

30	541055	2.80
60	541056	3.30
100	541057	6.60

30	541061	4.84
60	541062	5.70
100	541063	11.00

FOUR-POLE, DOUBLE-THROW



250 VOLTS

No Fuse, Regular Jaws		
Capacity Amperes	Trade No.	Price Each
30	541064	\$2.56
60	541065	4.40
100	541066	9.80
200	541067	15.50

Fused, High Jaws		
Capacity Amperes	Trade No.	Price Each
30	541068	\$4.84
60	541069	7.48
100	541070	16.28
200	541071	26.60

600 VOLTS—WITHOUT QUICK BREAK BLADES

30	541072	5.00
60	541073	6.00
100	541074	12.00

30	541075	10.00
60	541076	11.50
100	541077	23.00

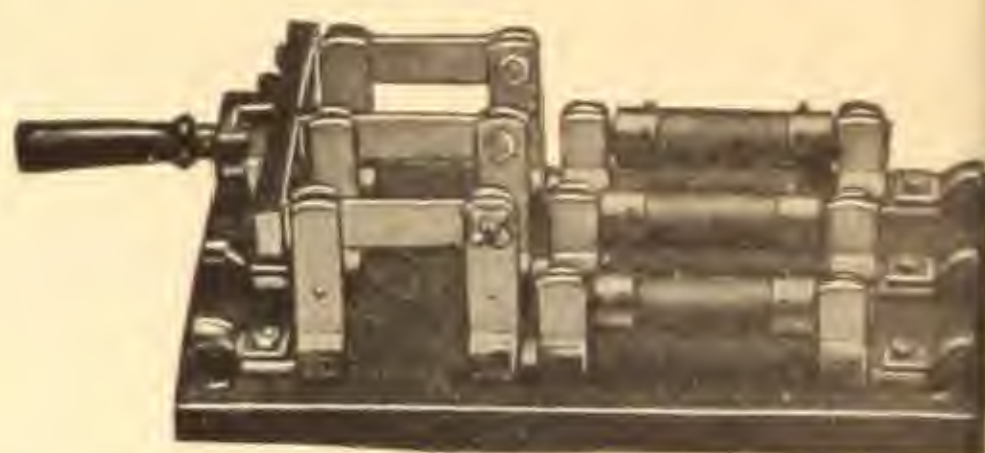
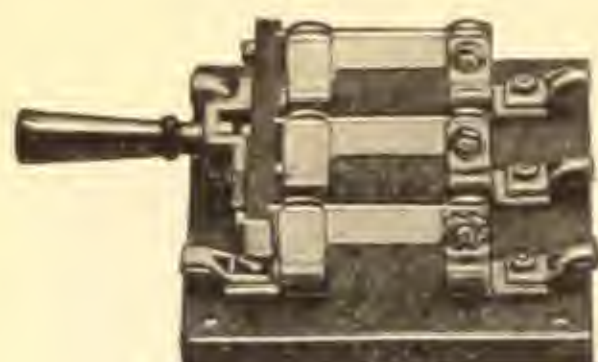
Fuses are not included in above prices.



## PUNCHED CLIP KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—500 VOLTS A.C.

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



## THREE-POLE, SINGLE-THROW

## No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540850	\$1.60
60	540851	1.84
100	540852	3.76
200	540853	6.76

## Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540858	\$2.80
60	540859	3.50
100	540860	7.00
200	540861	12.20

## THREE-POLE, DOUBLE-THROW

30	540862	2.66
60	540863	3.10
100	540864	6.90
200	540865	11.60

30	540866	6.00
60	540867	7.40
100	540868	14.00
200	540869	21.50



## FOUR-POLE, SINGLE-THROW

## No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540870	\$2.14
60	540871	2.44
100	540872	5.00
200	540873	9.00

## Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540878	\$3.70
60	540879	4.80
100	540880	9.30
200	540881	16.20

## FOUR-POLE, DOUBLE-THROW

30	540882	3.84
60	540883	4.40
100	540884	9.80
200	540885	15.50

30	540886	8.00
60	540887	9.80
100	540888	18.00
200	540889	28.60

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 VOLTS D. C. AND A. C.

SINGLE-POLE, SINGLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

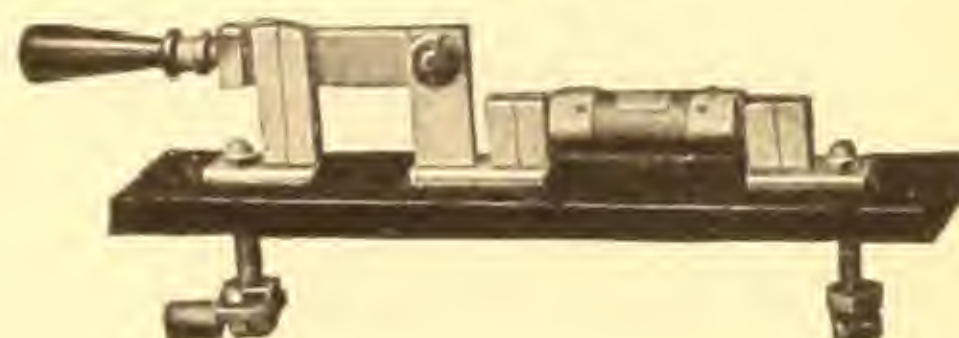
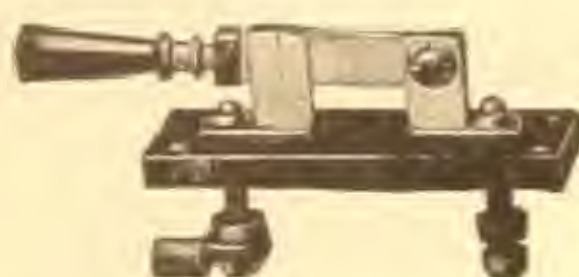
Capacity Amperes	Trade No.	Price Each
30	540000	\$0.80
60	540001	1.20
100	540002	2.25
200	540003	3.48
300	540004	5.34
400	540005	8.14
600	540006	11.54
800	540007	20.00
1000	540008	22.68
1200	540009	27.34
1500	540010	41.00
2000	540011	54.68

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540021	\$1.18
60	540022	1.74
100	540023	3.34
200	540024	5.14
300	540025	11.64
400	540026	16.34
600	540027	26.34
800	540028	30.34
1000	540029	35.68
1200	.....	.....
1500	.....	.....
2000	.....	.....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540030	\$0.96
60	540031	1.50
100	540032	2.54
200	540033	3.90
300	540034	5.94
400	540035	8.48
600	540036	12.20
800	540037	21.46
1000	540038	23.38
1200	540039	29.04
1500	540040	38.50
2000	540041	52.80

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540051	\$1.24
60	540052	1.88
100	540053	3.52
200	540054	5.32
300	540055	11.28
400	540056	16.36
600	540057	27.06
800	540058	30.58
1000	540059	36.86
1200	.....	.....
1500	.....	.....
2000	.....	.....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Fuseless switches are listed with regular jaws only. Fusible switches are listed with high jaws.

Switches over 800-ampere equipped with spade handles.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 VOLTS D. C. AND A. C.

SINGLE-POLE, DOUBLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540060	\$1.18
60	540061	1.74
100	540062	3.34
200	540063	5.34
300	540064	8.68
400	540065	12.54
600	540066	17.34
800	540067	28.00
1000	540068	31.68
1200	540069	40.00
1500	540070	62.68
2000	540071	80.00

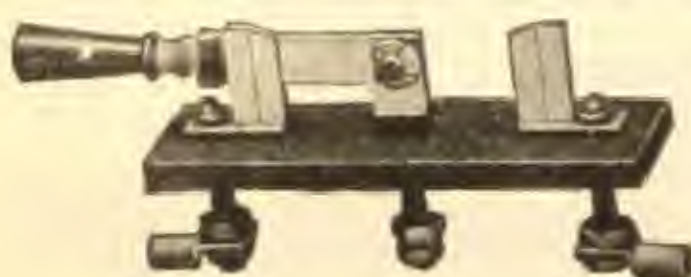


Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540072	\$2.28
60	540073	3.08
100	540074	6.20
200	540075	9.34
300	.....	.....
400	540076	18.68
600	540077	27.68
800	540078	42.68
1000	540079	50.68
1200	540080	58.68
1500	.....	.....
2000	.....	.....

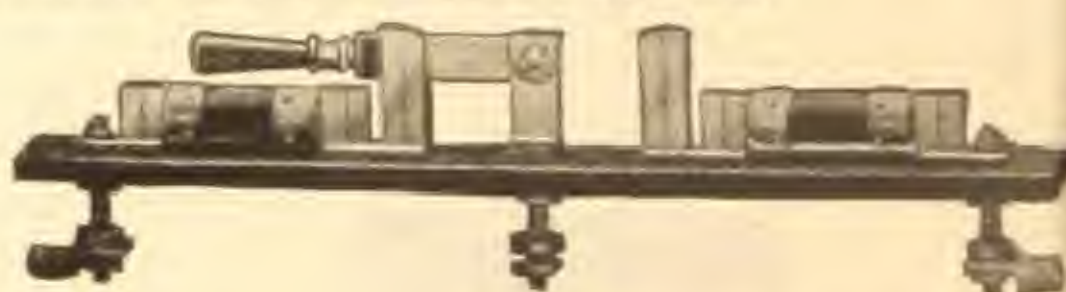
For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

## BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540081	\$1.38
60	540082	2.04
100	540083	3.52
200	540084	5.60
300	540085	8.58
400	540086	12.38
600	540087	17.34
800	540088	30.80
1000	540089	34.10
1200	540090	42.90
1500	540091	57.20
2000	540092	79.20



Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540093	\$2.64
60	540094	3.08
100	540095	5.50
200	540096	8.58
300	.....	.....
400	540097	18.44
600	540098	25.08
800	540099	42.90
1000	540100	48.68
1200	540101	57.20
1500	.....	.....
2000	.....	.....

Fuseless switches are furnished with regular jaws only. Fusible switches are furnished with high jaws.

Switches over 800-ampere equipped with spade handles.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.

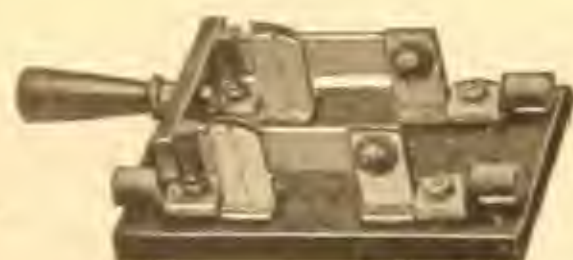


## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 VOLTS D. C. AND A. C.

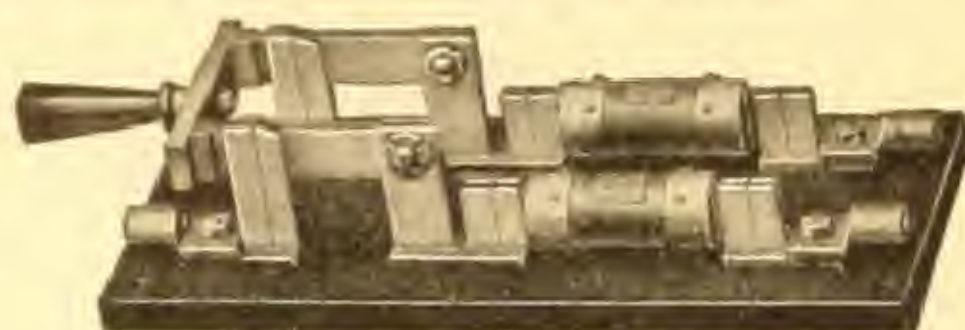
DOUBLE-POLE, SINGLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540102	\$1.20
60	540103	1.78
100	540104	3.38
200	540105	5.20
300	540106	8.00
400	540107	12.20
600	540108	17.30
800	540109	30.00
1000	540110	34.00
1200	540111	41.00
1500	540112	61.50
2000	540113	82.00



Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540123	\$1.76
60	540124	2.60
100	540125	5.00
200	540126	7.70
†300	.....	.....
400	540127	17.46
600	540128	24.50
800	540129	39.50
1000	540130	45.50
1200	540131	53.50
1500	.....	.....
2000	.....	.....

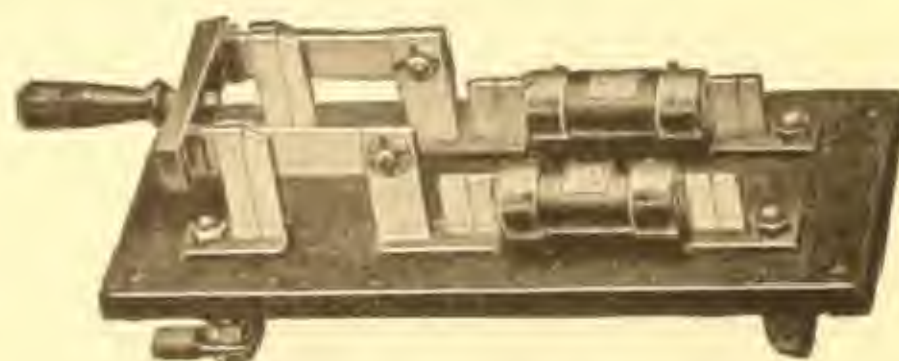
For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540132	\$1.74
60	540133	2.70
100	540134	4.60
200	540135	7.10
300	540136	10.80
400	540137	15.40
600	540138	22.20
800	540139	39.00
1000	540140	42.50
1200	540141	52.80
1500	540142	70.00
2000	540143	96.00



Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540153	\$2.24
60	540154	3.42
100	540155	6.40
200	540156	9.66
†300	.....	.....
400	540157	20.50
600	540158	29.74
800	540159	49.20
1000	540160	55.60
1200	540161	67.00
1500	.....	.....
2000	.....	.....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Fuseless switches are listed with regular jaws only. Fusible switches are listed with high jaws.

Switches over 800-ampere equipped with spade handles.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400 ampere, 5 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

†300-ampere fusible switches not permitted by code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 VOLTS D. C. AND A. C.

DOUBLE-POLE, DOUBLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

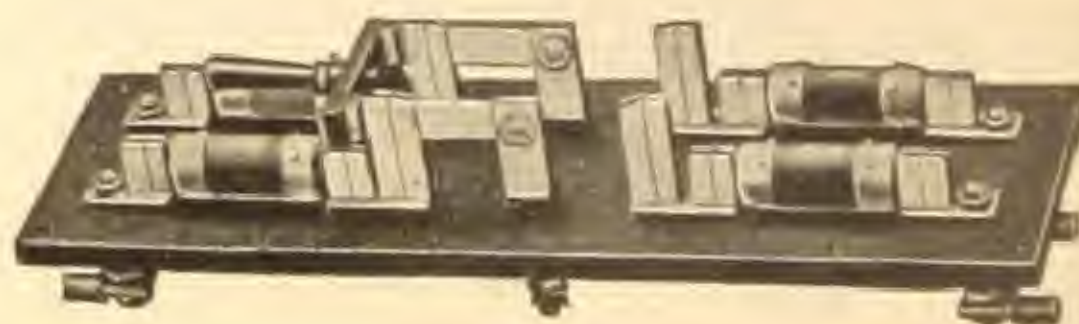
Capacity Amperes	Trade No.	Price Each
30	540162	\$1.76
60	540163	2.60
100	540164	5.00
200	540165	8.00
300	540166	13.00
400	540167	18.80
600	540168	26.00
800	540169	42.00
1000	540170	47.50
1200	540171	60.00
1500	540172	94.00
2000	540173	120.00

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540174	\$3.40
60	540175	4.60
100	540176	9.30
200	540177	14.00
300	.....	.....
400	540178	28.00
600	540179	41.50
800	540180	64.00
1000	540181	76.00
1200	540182	88.00
1500	.....	.....
2000	.....	.....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540183	\$2.50
60	540184	3.70
100	540185	6.40
200	540186	10.20
300	540187	15.60
400	540188	22.50
600	540189	31.50
800	540190	56.00
1000	540191	62.00
1200	540192	78.00
1500	540193	104.00
2000	540194	144.00

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540195	\$4.80
60	540196	5.60
100	540197	10.00
200	540198	15.60
300	.....	.....
400	540199	33.50
600	540200	45.60
800	540201	78.00
1000	540202	88.50
1200	540203	104.00
1500	.....	.....
2000	.....	.....

Fuseless switches are furnished with regular jaws only. Fusible switches are furnished with high jaws.

Switches over 800-ampere equipped with spade handles.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

†300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 VOLTS D. C. AND A. C.

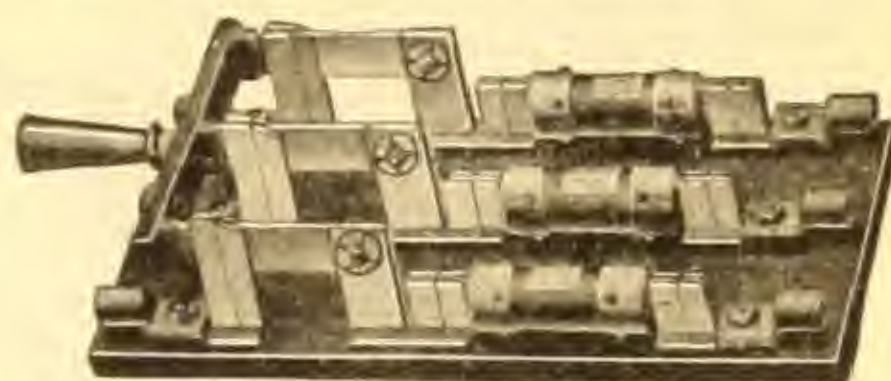
THREE-POLE, SINGLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540204	\$1.80
60	540205	2.68
100	540206	5.08
200	540207	7.80
300	540208	12.00
400	540209	18.30
600	540210	25.96
800	540211	45.00
1000	540212	51.00
1200	540213	61.50
1500	540214	92.25
2000	540215	123.00



Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540225	\$2.64
60	540226	3.90
100	540227	7.50
200	540228	11.56
†300	.....	.....
400	540229	26.20
600	540230	36.75
800	540231	59.25
1000	540232	68.25
1200	540233	80.25
1500	.....	.....
2000	.....	.....

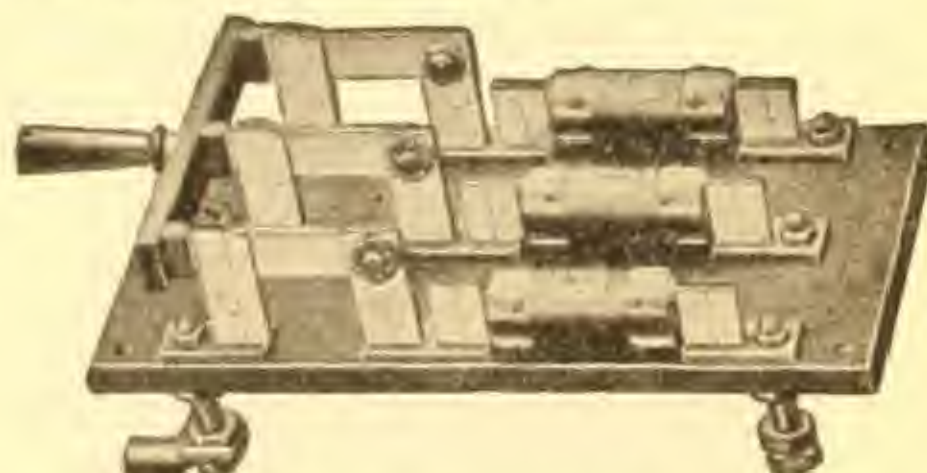
For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540234	\$2.60
60	540235	4.06
100	540236	6.90
200	540237	10.66
300	540238	16.20
400	540239	23.10
600	540240	33.30
800	540241	58.50
1000	540242	63.75
1200	540243	79.20
1500	540244	105.00
2000	540245	144.00



Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540255	\$3.36
60	540256	5.14
100	540257	9.60
200	540258	14.50
†300	.....	.....
400	540259	30.75
600	540260	44.62
800	540261	73.80
1000	540262	83.40
1200	540263	100.50
1500	.....	.....
2000	.....	.....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Fuseless switches are listed with regular jaws only. Fusible switches are listed with high jaws.

Switches over 800-ampere equipped with spade handles.

For plain finish, back connected, 30 to 400-ampere switches, deduct, 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

†300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 VOLTS D. C. AND A. C.

THREE-POLE, DOUBLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws		
Capacity Amperes	Trade No.	Price Each
30	540264	\$2.64
60	540265	3.90
100	540266	7.50
200	540267	12.00
300	540268	19.50
400	540269	28.20
600	540270	39.00
800	540271	63.00
1000	540272	71.25
1200	540273	90.00
1500	540274	141.00
2000	540275	180.00

Fused, High Jaws		
Capacity Amperes	Trade No.	Price Each
30	540276	\$5.10
60	540277	6.90
100	540278	13.95
200	540279	21.00
300	.....	.....
400	540280	42.00
600	540281	62.25
800	540282	98.00
1000	540283	114.00
1200	540284	132.00
1500	.....	.....
2000	.....	.....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

## BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws		
Capacity Amperes	Trade No.	Price Each
30	540285	\$3.75
60	540286	5.56
100	540287	9.60
200	540288	15.30
300	540289	23.40
400	540290	33.75
600	540291	47.25
800	540292	84.00
1000	540293	93.00
1200	540294	117.00
1500	540295	156.00
2000	540296	216.00

Fused, High Jaws		
Capacity Amperes	Trade No.	Price Each
30	540297	\$7.20
60	540298	8.40
100	540299	15.00
200	540300	23.40
300	.....	.....
400	540301	50.25
600	540302	68.40
800	540303	117.00
1000	540304	132.75
1200	540305	156.00
1500	.....	.....
2000	.....	.....

Fuseless switches are furnished with regular jaws only. Fusible switches are furnished with high jaws.

Switches over 800-ampere equipped with spade handles.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

†300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.

All single  
extra charge  
Fuseless  
jaws.  
Switches  
For plain  
ampere, 5 per  
For double  
Quick bre  
†300-amp  
Fuses are



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 VOLTS D. C. AND A. C.

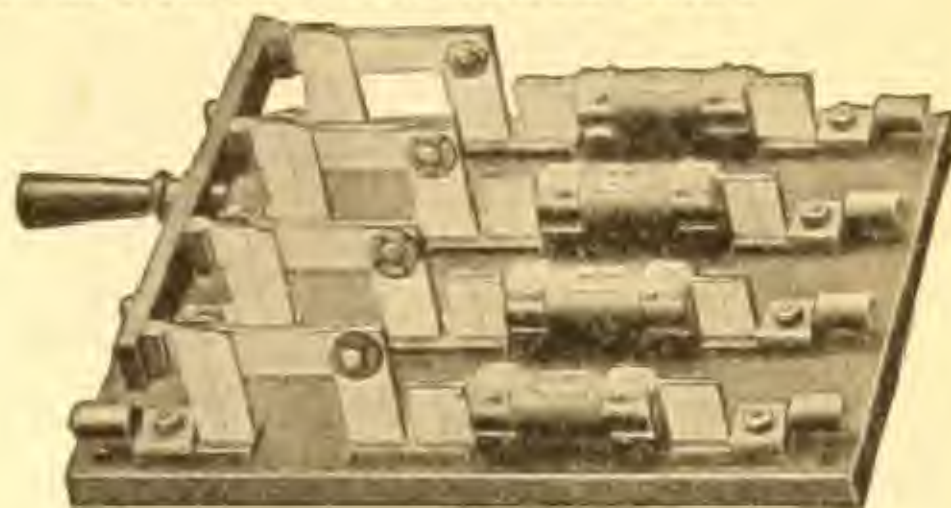
FOUR-POLE, SINGLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540306	\$2.40
60	540307	3.56
100	540308	6.76
200	540309	10.40
300	540310	17.00
400	540311	25.94
600	540312	36.78
800	540313	60.00
1000	540314	68.00
1200	540315	82.00
1500	540316	123.00
2000	540317	164.00



Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540327	\$3.52
60	540328	5.20
100	540329	10.00
200	540330	15.40
300	.....	.....
400	540331	37.10
600	540332	52.06
800	540333	79.00
1000	540334	91.00
1200	540335	107.00
1500	.....	.....
2000	.....	.....

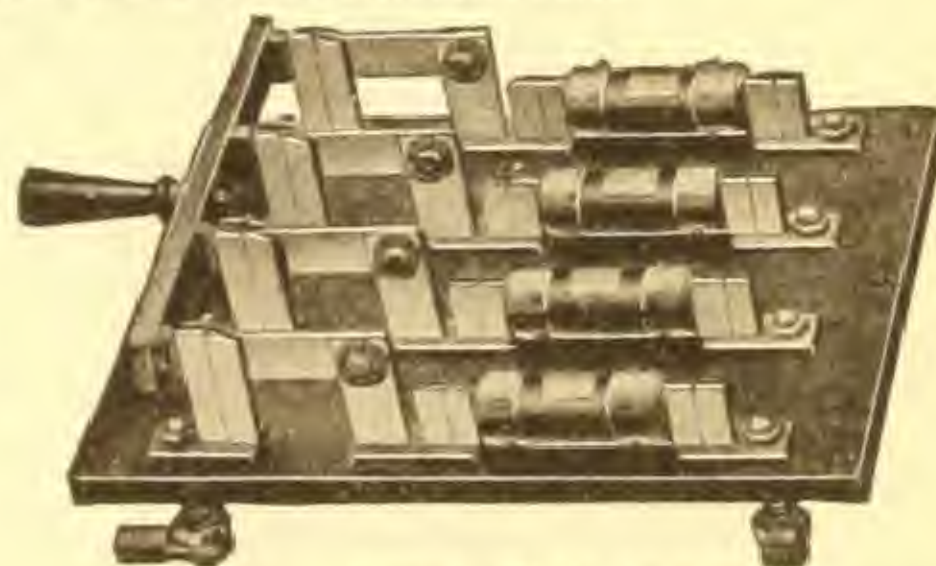
For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

## BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540336	\$3.48
60	540337	5.40
100	540338	9.20
200	540339	14.20
300	540340	22.96
400	540341	32.72
600	540342	47.18
800	540343	78.00
1000	540344	85.00
1200	540345	105.60
1500	540346	140.00
2000	540347	192.00



Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540357	\$4.48
60	540358	6.84
100	540359	12.80
200	540360	19.32
300	.....	.....
400	540361	43.56
600	540362	63.20
800	540363	98.40
1000	540364	111.20
1200	540365	134.00
1500	.....	.....
2000	.....	.....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Fuseless switches are listed with regular jaws only. Fusible switches are listed with high jaws.

Switches over 800-ampere equipped with spade handles.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—250 VOLTS D. C. AND A. C.

FOUR-POLE, DOUBLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

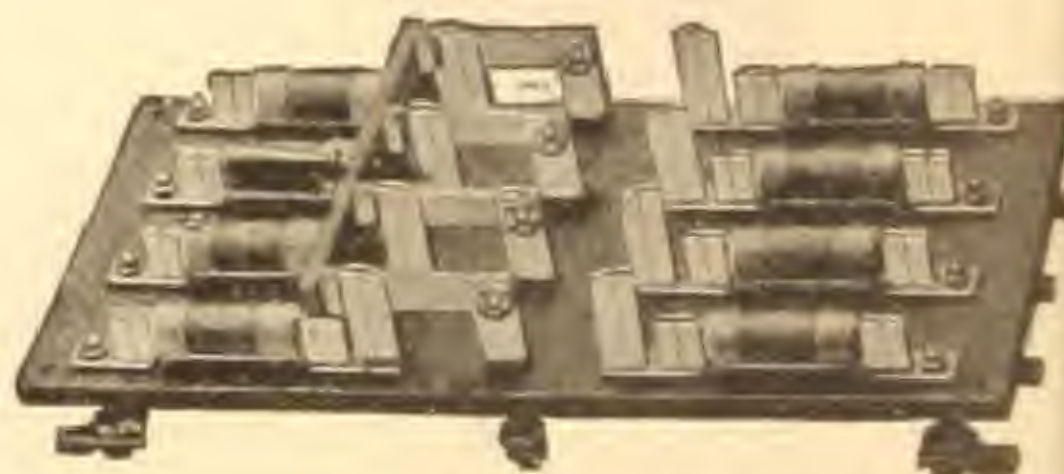
Capacity Amperes	Trade No.	Price Each
30	540366	\$3.52
60	540367	5.20
100	540368	10.00
200	540369	16.00
300	540370	26.00
400	540371	37.60
600	540372	52.00
800	540373	84.00
1000	540374	95.00
1200	540375	120.00
1500	540376	188.00
2000	540377	240.00

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540378	\$6.80
60	540379	9.20
100	540380	18.00
200	540381	28.00
300	.....	.....
400	540382	56.00
600	540383	83.00
800	540384	128.00
1000	540385	152.00
1200	540386	176.00
1500	.....	.....
2000	.....	.....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

## BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540387	\$5.00
60	540388	7.40
100	540389	12.80
200	540390	20.40
300	540391	31.20
400	540392	45.00
600	540393	63.00
800	540394	112.00
1000	540395	124.00
1200	540396	156.00
1500	540397	208.00
2000	540398	288.00

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540399	\$ 9.60
60	540400	11.20
100	540401	20.00
200	540402	31.20
300	.....	.....
400	540403	67.00
600	540404	91.20
800	540405	156.00
1000	540406	177.00
1200	540407	208.00
1500	.....	.....
2000	.....	.....

Fuseless switches are furnished with regular jaws only. Fusible switches are furnished with high jaws.

Switches over 800-ampere equipped with spade handles.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—600 VOLTS

SINGLE-POLE, SINGLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



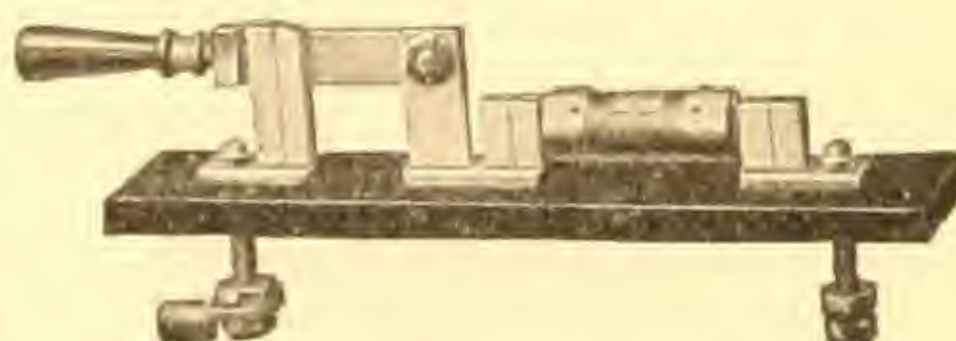
No Fuse, Regular Jaws

Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		Capacity Amperes	WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each		Trade No.	Price Each	Trade No.	Price Each
540408	\$1.50	540415	\$1.18	30	540418	\$2.18	540424	\$1.84
540409	1.60	540416	1.28	60	540419	2.34	540425	2.04
540410	2.76	540417	2.20	100	540420	3.90	540426	3.48
540411	4.40	.....	....	200	540421	6.16	.....	....
540412	6.82	.....	....	†300	.....	....	.....	....
540413	9.36	.....	....	400	540422	12.94	.....	....
540414	12.38	.....	....	600	540423	17.34	.....	....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		Capacity Amperes	WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each		Trade No.	Price Each	Trade No.	Price Each
540427	\$2.10	540434	\$1.84	30	540437	\$2.66	540443	\$2.34
540428	2.20	540435	1.94	60	540438	2.96	540444	2.60
540429	3.58	540436	3.04	100	540439	4.68	540445	4.08
540430	5.28	.....	....	200	540440	6.94	.....	....
540431	7.16	.....	....	†300	.....	....	.....	....
540432	11.00	.....	....	400	540441	14.58	.....	....
540433	15.40	.....	....	600	540442	20.08	.....	....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Fuseless switches are listed with regular jaws. Fusible switches are listed with high jaws.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

†300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—600 VOLTS

SINGLE-POLE, DOUBLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

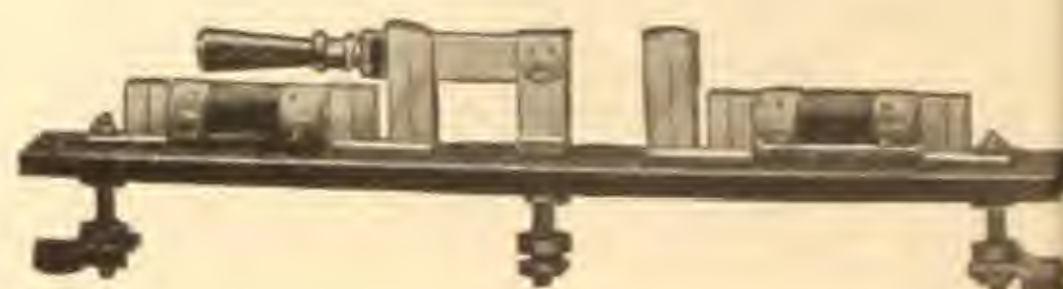
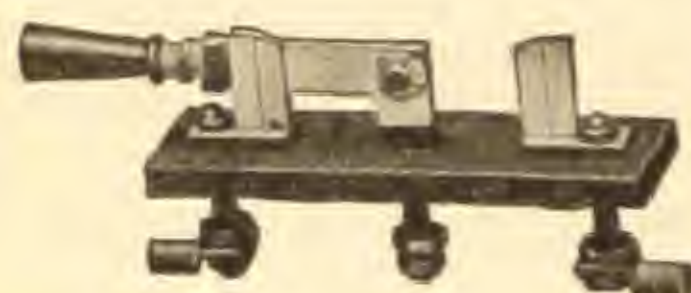
WITH QUICK BREAK		WITHOUT QUICK BREAK		Capacity Amperes
Trade No.	Price Each	Trade No.	Price Each	
540446	\$2.64	540453	\$2.36	30
540447	2.76	540454	2.48	60
540448	4.08	540455	3.58	100
540449	6.60	.....	....	200
540450	9.90	.....	....	†300
540451	13.76	.....	....	400
540452	17.60	.....	....	600

Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each
540456	\$3.74	540462	\$3.12
540457	4.08	540463	3.58
540458	6.88	540464	6.34
540459	10.46	.....	....
.....	.....	.....	....
540460	19.80	.....	....
540461	29.70	.....	....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		Capacity Amperes
Trade No.	Price Each	Trade No.	Price Each	
540465	\$3.22	540472	\$2.70	30
540466	3.30	540473	2.80	60
540467	4.96	540474	4.08	100
540468	7.38	.....	....	200
540469	11.56	.....	....	†300
540470	15.40	.....	....	400
540471	20.90	.....	....	600

Fused, Regular Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each
540475	\$3.74	540481	\$3.18
540476	4.14	540482	3.58
540477	6.88	540483	6.06
540478	10.18	.....	....
.....	.....	.....	....
540479	20.36	.....	....
540480	28.60	.....	....

Fuseless switches are listed with regular jaws. Fusible switches are listed with high jaws

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400 ampere, 5 per cent.

For double-break switches, add 50 per cent.

†300-ampere fusible switches not permitted by Code

Fuses are not included in above prices.



# HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—600 VOLTS

DOUBLE-POLE, SINGLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



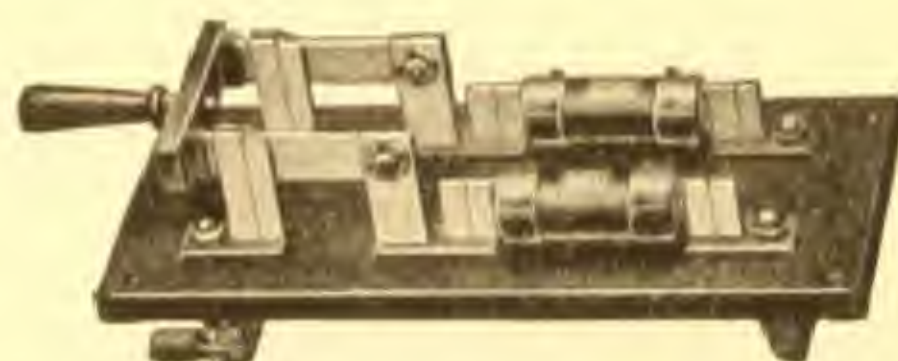
No Fuse, Regular Jaws

Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		Capacity Amperes	WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each		Trade No.	Price Each	Trade No.	Price Each
540484	\$2.72	540491	\$2.12	30	540494	\$3.92	540500	\$3.32
540485	2.90	540492	2.30	60	540495	4.26	540501	3.70
540486	5.00	540493	4.00	100	540496	7.10	540502	6.30
540487	8.00	.....	....	200	540497	11.20	.....	....
540488	12.40	.....	....	†300	.....	....	.....	....
540489	17.00	.....	....	400	540498	23.50	.....	....
540490	22.50	.....	....	600	540499	31.50	.....	....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		Capacity Amperes	WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each		Trade No.	Price Each	Trade No.	Price Each
540503	\$3.82	540510	\$3.32	30	540513	\$4.82	540519	\$4.22
540504	4.00	540511	3.50	60	540514	5.40	540520	4.70
540505	6.50	540512	5.50	100	540515	8.50	540521	7.40
540506	9.60	.....	....	200	540516	12.60	.....	....
540507	13.00	.....	....	†300	.....	....	.....	....
540508	20.00	.....	....	400	540517	26.50	.....	....
540509	28.00	.....	....	600	540518	36.50	.....	....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Fuseless switches are listed with regular jaws. Fusible switches are listed with high jaws.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

†300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—600 VOLTS

DOUBLE-POLE, DOUBLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaw



Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each
540522	\$4.76	540529	\$4.26
540523	5.00	540530	4.50
540524	7.40	540531	6.50
540525	12.00	.....	....
540526	18.00	.....	....
540527	25.00	.....	....
540528	32.00	.....	....

Capacity Amperes
30
60
100
200
†300
400
600

WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each
540532	\$6.74	540538	\$5.42
540533	7.40	540539	6.00
540534	12.50	540540	11.50
540535	19.00	.....	....
.....	....	.....	....
540536	36.00	.....	....
540537	54.00	.....	....

For polished finish, 30 to 200-ampere, add 50 per cent; over 200-ampere, 20 per cent.

## BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws



Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each
540541	\$5.74	540548	\$4.86
540542	6.00	540549	5.10
540543	9.00	540550	7.40
540544	13.40	.....	....
540545	21.00	.....	....
540546	28.00	.....	....
540547	38.00	.....	....

Capacity Amperes
30
60
100
200
†300
400
600

WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each
540551	\$6.88	540557	\$5.76
540552	7.50	540558	6.50
540553	12.50	540559	11.00
540554	18.50	.....	....
.....	....	.....	....
540555	37.00	.....	....
540556	52.00	.....	....

Fuseless switches are listed with regular jaws. Fusible switches are listed with high jaws.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

†300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.

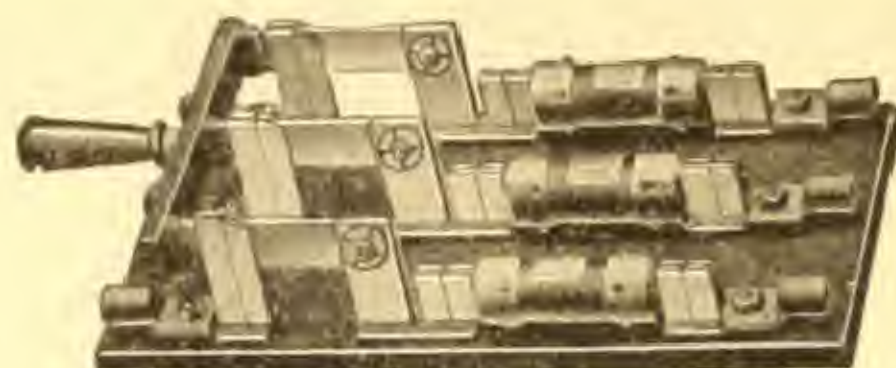


# HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—600 VOLTS

THREE-POLE, SINGLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

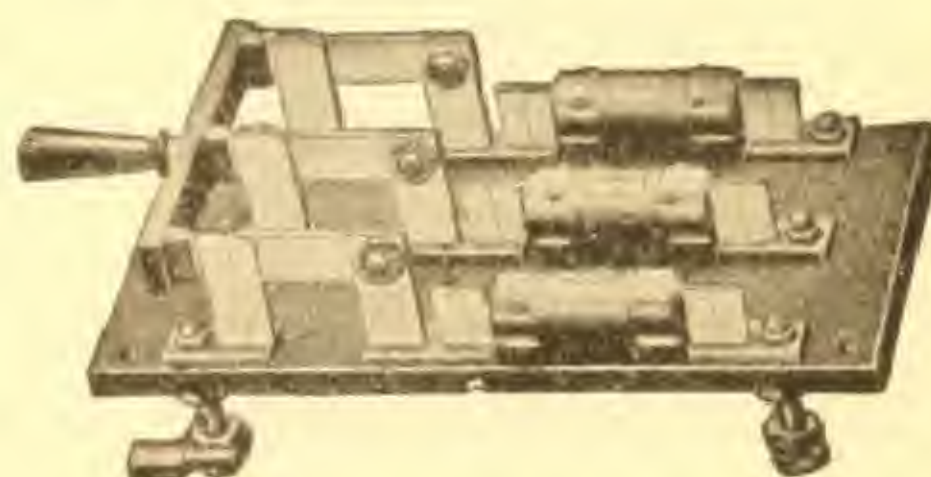
WITH QUICK BREAK	WITHOUT QUICK BREAK	
Trade No.	Trade No.	Capacity Amperes
Price Each	Price Each	
540560 \$4.38	540567 \$3.40	30
540561 4.64	540568 3.68	60
540562 8.00	540569 6.40	100
540563 12.80	.....	200
540564 19.84	.....	300
540565 27.20	.....	400
540566 36.00	.....	600

Fused, High Jaws

WITH QUICK BREAK	WITHOUT QUICK BREAK	
Trade No.	Trade No.	Capacity Amperes
Price Each	Price Each	
540570 \$6.30	540576 \$5.34	30
540571 6.82	540577 5.92	60
540572 11.36	540578 10.08	100
540573 17.92	.....	200
.....	.....	300
540574 37.60	.....	400
540575 50.40	.....	600

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

WITH QUICK BREAK	WITHOUT QUICK BREAK	
Trade No.	Trade No.	Capacity Amperes
Price Each	Price Each	
540579 \$6.12	540586 \$5.34	30
540580 6.40	540587 5.60	60
540581 10.40	540588 8.80	100
540582 15.36	.....	200
540583 20.80	.....	300
540584 32.00	.....	400
540585 44.80	.....	600

Fused, High Jaws

WITH QUICK BREAK	WITHOUT QUICK BREAK	
Trade No.	Trade No.	Capacity Amperes
Price Each	Price Each	
540589 \$7.74	540595 \$6.78	30
540590 8.64	540596 7.52	60
540591 13.60	540597 11.84	100
540592 20.16	.....	200
.....	.....	300
540593 42.40	.....	400
540594 58.40	.....	600

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Fuseless switches are listed with regular jaws. Fusible switches are listed with high jaws.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

300-ampere fusible switch not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—600 VOLTS

THREE-POLE, DOUBLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

WITH QUICK BREAK Trade No.	Price Each	WITHOUT QUICK BREAK Trade No.	Price Each	Capacity Amperes
540598	\$7.64	540605	\$6.84	30
540599	8.00	540606	7.20	60
540600	11.84	540607	10.40	100
540601	19.20	.....	.....	200
540602	28.80	.....	.....	†300
540603	40.00	.....	.....	400
540604	51.20	.....	.....	600

Fused, High Jaws

WITH QUICK BREAK Trade No.	Price Each	WITHOUT QUICK BREAK Trade No.	Price Each
540608	\$10.84	540614	\$ 9.40
540609	11.84	540615	10.40
540610	20.00	540616	18.40
540611	30.40	.....	.....
.....	.....	.....	.....
540612	57.60	.....	.....
540613	86.40	.....	.....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

## BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

WITH QUICK BREAK Trade No.	Price Each	WITHOUT QUICK BREAK Trade No.	Price Each	Capacity Amperes
540617	\$9.24	540624	\$7.80	30
540618	9.60	540625	8.16	60
540619	14.40	540626	11.74	100
540620	21.44	.....	.....	200
540621	33.60	.....	.....	†300
540622	44.80	.....	.....	400
540623	60.80	.....	.....	600

Fused, High Jaws

WITH QUICK BREAK Trade No.	Price Each	WITHOUT QUICK BREAK Trade No.	Price Each
540627	\$10.84	540633	\$ 9.24
540628	12.00	540634	10.40
540629	20.00	540635	17.60
540630	29.60	.....	.....
.....	.....	.....	.....
540631	59.20	.....	.....
540632	83.20	.....	.....

Fuseless switches are listed with regular jaws. Fusible switches are listed with high jaws.

For plain finish, back connected. 30 to 400-ampere switches, deduct 10 per cent; over 400 ampere, 5 per cent.

For double-break switches, add 50 per cent.

†300-ampere fusible switch not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—600 VOLTS

FOUR-POLE, SINGLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws



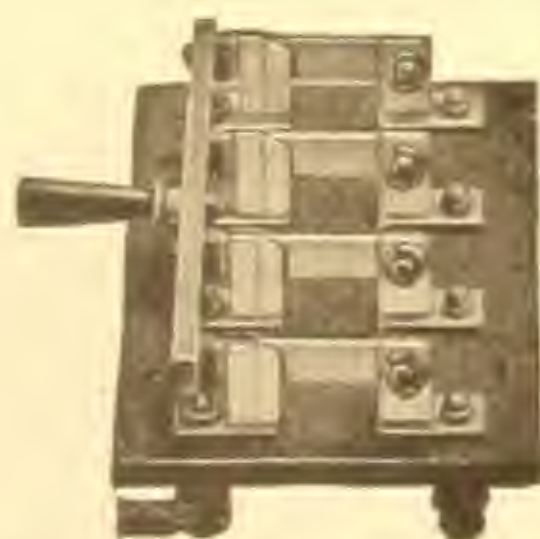
Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		Capacity Amperes
Trade No.	Price Each	Trade No.	Price Each	
540636	\$6.02	540643	\$4.70	30
540637	6.38	540644	5.06	60
540638	11.00	540645	8.80	100
540639	17.60	.....	.....	200
540640	27.28	.....	.....	300
540641	37.40	.....	.....	400
540642	49.50	.....	.....	600

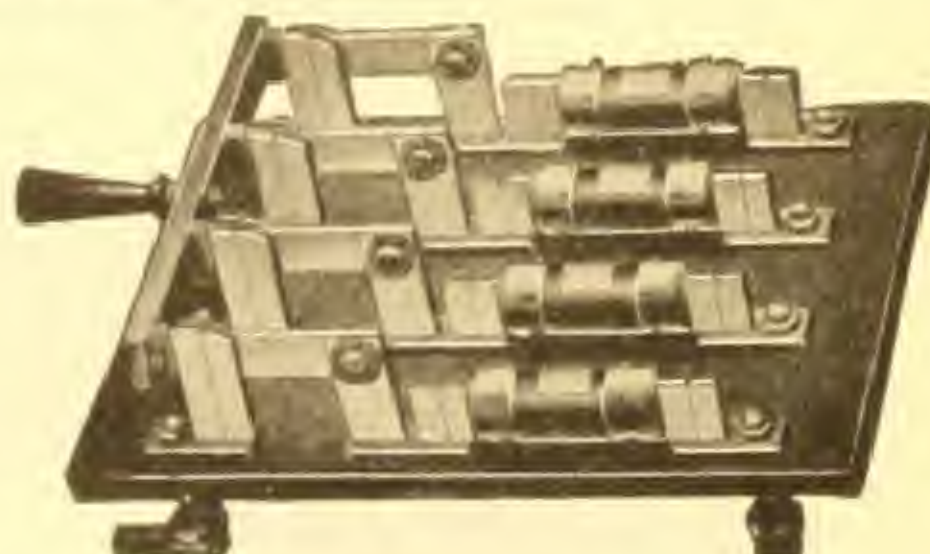
WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each
540646	\$8.66	540652	\$7.34
540647	9.38	540653	8.14
540648	15.62	540654	13.86
540649	24.64	.....	.....
.....	.....	.....	.....
540650	51.70	.....	.....
540651	69.30	.....	.....

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

## BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws



Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		Capacity Amperes
Trade No.	Price Each	Trade No.	Price Each	
540655	\$8.44	540662	\$7.34	30
540656	8.80	540663	7.70	60
540657	14.30	540664	12.10	100
540658	21.12	.....	.....	200
540659	28.60	.....	.....	300
540660	44.00	.....	.....	400
540661	61.60	.....	.....	600

WITH QUICK BREAK		WITHOUT QUICK BREAK	
Trade No.	Price Each	Trade No.	Price Each
540665	\$10.64	540671	\$ 9.32
540666	11.88	540672	10.34
540667	18.70	540673	16.28
540668	27.72	.....	.....
.....	.....	.....	.....
540669	58.30	.....	.....
540670	80.30	.....	.....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Fuseless switches are listed with regular jaws. Fusible switches are listed with high jaws.

For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

All the above switches are equipped with spade handles.

300-ampere fusible switch not permitted by Code.

Fuses are not included in above prices.

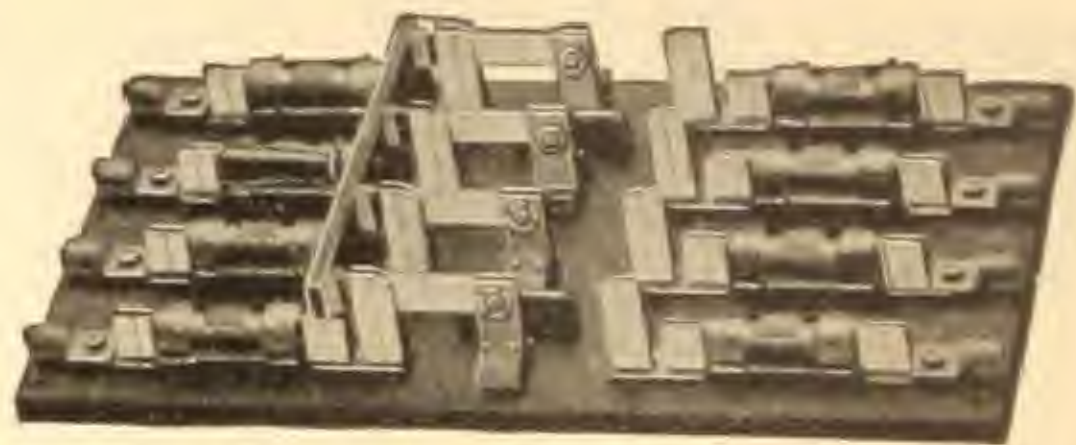


## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—600 VOLTS

FOUR-POLE, DOUBLE-THROW

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE



No Fuse, Regular Jaws

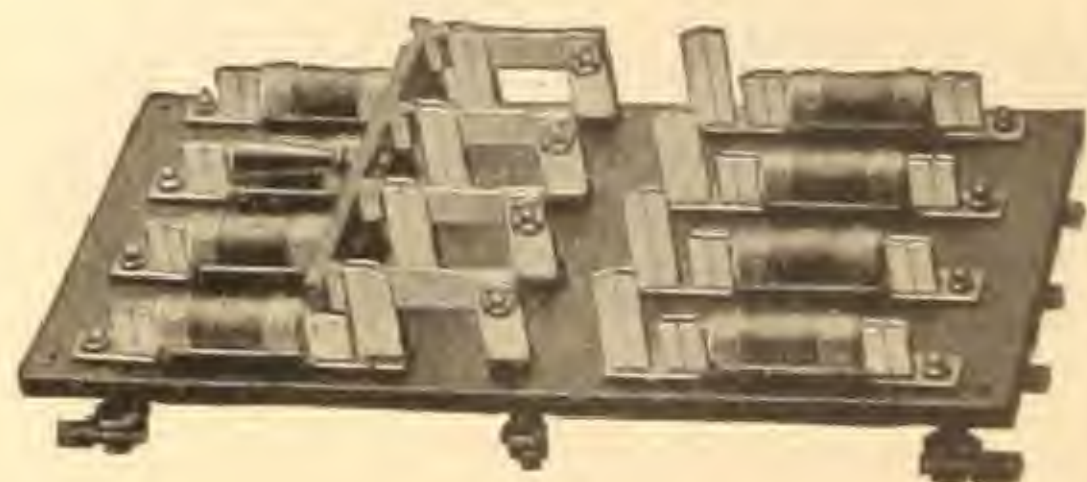
WITH QUICK BREAK		WITHOUT QUICK BREAK		
Trade No.	Price Each	Trade No.	Price Each	Capacity Amperes
540674	\$10.52	540681	\$9.42	30
540675	11.00	540682	9.90	60
540676	16.28	540683	14.30	100
540677	26.40	.....	.....	200
540678	39.60	.....	.....	†300
540679	55.00	.....	.....	400
540680	70.40	.....	.....	600

Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		
Trade No.	Price Each	Trade No.	Price Each	
540684	\$14.92	540690	\$12.50	
540685	16.28	540691	13.50	
540686	27.50	540692	25.30	
540687	41.80	.....	.....	
.....	.....	.....	.....	
540688	79.20	.....	.....	
540689	118.80	.....	.....	

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

BACK CONNECTION—POLISHED FINISH—UNMOUNTED



No Fuse, Regular Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		
Trade No.	Price Each	Trade No.	Price Each	Capacity Amperes
540693	\$12.72	540700	\$10.74	30
540694	13.20	540701	11.22	60
540695	19.80	540702	16.28	100
540696	29.48	.....	.....	200
540697	46.20	.....	.....	†300
540698	61.60	.....	.....	400
540699	83.60	.....	.....	600

Fused, High Jaws

WITH QUICK BREAK		WITHOUT QUICK BREAK		
Trade No.	Price Each	Trade No.	Price Each	
540703	\$14.92	540709	\$12.72	
540704	16.50	540710	14.30	
540705	27.50	540711	24.20	
540706	40.70	.....	.....	
.....	.....	.....	.....	
540707	81.40	.....	.....	
540708	114.40	.....	.....	

Fuseless switches are listed with regular jaws. Fusible switches are listed with high jaws. For plain finish, back connected, 30 to 400-ampere switches, deduct 10 per cent; over 400-ampere, 5 per cent.

For double-break switches, add 50 per cent.

†300-ampere fusible switch not permitted by Code.

All the above switches are equipped with spade handles.

Fuses are not included in above prices.

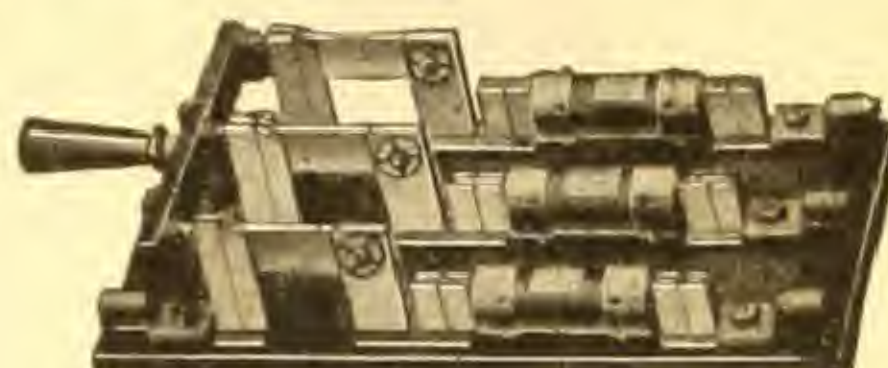


## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—500 VOLTS A. C.

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE

THREE-POLE, SINGLE-THROW



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540748	\$2.48
60	540749	2.68
100	540750	5.08
200	540751	7.80
300	540752	12.00
400	540753	18.30
600	540754	25.96
800	540755	45.00
1000	540756	51.00
1200	540757	61.50
1500	540758	92.25
2000	540759	123.00

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540769	\$4.00
60	540770	4.60
100	540771	8.20
200	540772	13.16
300	.....	.....
400	540773	28.50
600	540774	40.00
800	540775	62.00
1000	540776	70.00
1200	540777	84.00
.....	.....	.....
.....	.....	.....

THREE-POLE, DOUBLE-THROW



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540778	\$3.40
60	540779	3.90
100	540780	7.50
200	540781	12.00
300	540782	19.50
400	540783	28.20
600	540784	39.00
800	540785	63.00
1000	540786	71.25
1200	540787	90.00
1500	540788	141.00
2000	540789	180.00

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540790	\$7.50
60	540791	9.00
100	540792	16.00
200	540793	23.50
300	.....	.....
400	540794	48.00
600	540795	72.00
800	540796	110.00
1000	540797	120.00
1200	540798	140.00
1500	.....	.....
2000	.....	.....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fuse connections at handle end.

Single and double-throw fuseless switches are listed with regular jaws only. Single and double-throw fused switches are listed with high jaws.

Switches over 800-ampere equipped with spade handles.

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

For double break switches, add 50 per cent.

300-ampere fusible switches not permitted by Code.

Fuses are not included in above prices.



## HIGH GRADE KNIFE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD—500 VOLTS A. C.

FRONT CONNECTION—PLAIN FINISH—MOUNTED ON SLATE BASE  
FOUR-POLE, SINGLE-THROW

No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540799	\$3.30
60	540800	3.56
100	540801	6.76
200	540802	10.40
300	540803	17.00
400	540804	25.94
600	540805	36.78
800	540806	60.00
1000	540807	68.00
1200	540808	82.00
1500	540809	123.00
2000	540810	164.00

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540820	\$5.34
60	540821	6.14
100	540822	10.94
200	540823	17.48
300	.....	.....
400	540824	38.00
600	540825	53.34
800	540826	82.08
1000	540827	93.34
1200	540828	112.00
1500	.....	.....
2000	.....	.....

## FOUR-POLE, DOUBLE-THROW



No Fuse, Regular Jaws

Capacity Amperes	Trade No.	Price Each
30	540829	\$4.60
60	540830	5.20
100	540831	10.00
200	540832	16.00
300	540833	26.00
400	540834	37.60
600	540835	52.00
800	540836	84.00
1000	540837	95.00
1200	540838	120.00
1500	540839	188.00
2000	540840	240.00

Fused, High Jaws

Capacity Amperes	Trade No.	Price Each
30	540841	\$10.00
60	540842	12.00
100	540843	21.32
200	540844	31.32
300	.....	.....
400	540845	60.00
600	540846	96.00
800	540847	146.68
1000	540848	160.00
1200	540849	186.68
1500	.....	.....
2000	.....	.....

All single-throw switches furnished fused at hinge end, unless otherwise ordered. No extra charge for fused connections at handle end.

Single and double-throw fuseless switches are listed with regular jaws only. Single and double-throw fused switches are listed with high jaws.

Switches over 800-ampere equipped with spade handles.

For polished finish, 30 to 200-ampere, add 30 per cent; over 200-ampere, 20 per cent.

For double-break switches, add 50 per cent.

Quick break attachments are listed on one of the following pages.

300-ampere fusible switches not permitted by Code.

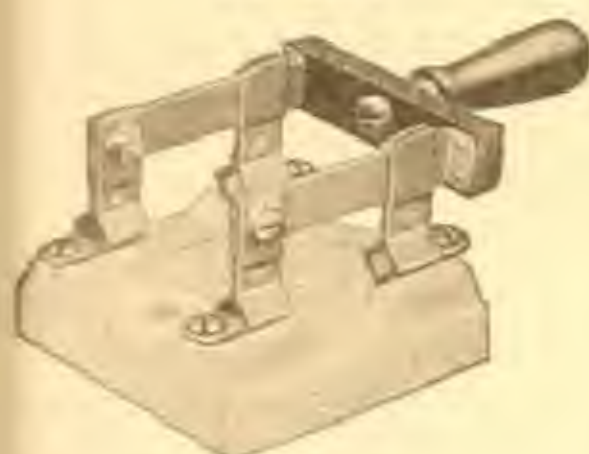
Fuses are not included in above prices.



## BRYANT SWITCHES



No. 1436



No. 1438



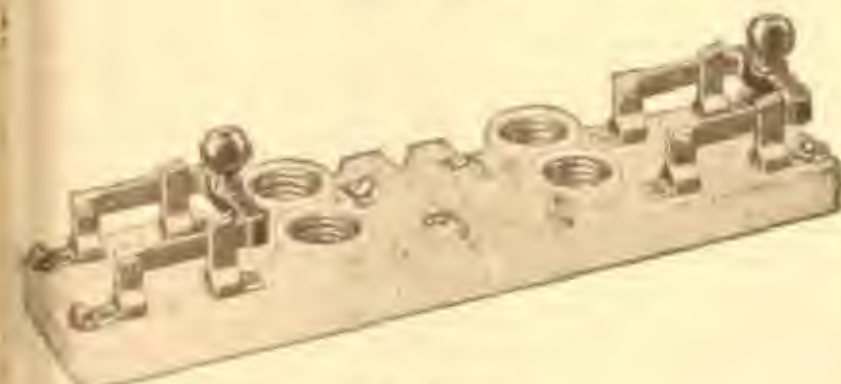
No. 1638



No. 1692



No. 1852



No. 1984



No. 1987

### BRYANT BABY KNIFE SWITCHES SCHEDULE H2-125 VOLTS MOUNTED ON PORCELAIN BASE

		Single-pole, Single-throw					
Trade No.	Mfrs. No.	Capacity Amperes	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
094982	1436	15	10	100	40	\$0.34	
094983	1437	30	10	100	50	.44	
Single-pole, Double-throw							
094984	1454	15	10	50	25	.60	
094985	1455	30	10	50	27	.74	
Double-pole, Single-throw							
094986	1438	15	10	100	70	.42	
094987	1439	30	10	100	80	.50	
Double-pole, Double-throw							
094988	1456	15	5	50	55	.74	
094989	1457	30	5	50	60	.90	
Triple-pole, Single-throw							
094990	1440	15	5	25	30	.90	
094991	1441	30	5	25	35	1.10	

### 250 VOLTS MOUNTED ON SLATE BASE

		Single-pole, Single-throw					
Trade No.	Mfrs. No.	Capacity Amperes	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
094992	1636	15	10	100	55	.40	
094993	1637	30	10	100	58	.50	
Single-pole, Double-throw							
094994	1654	15	5	50	40	.68	
094995	1655	30	5	50	43	.84	
Double-pole, Single-throw							
094996	1638	15	5	100	102	.50	
094997	1639	30	5	100	110	.60	
Double-pole, Double-throw							
094998	1656	15	5	50	86	.86	
094999	1657	30	5	50	88	1.04	
Triple-pole, Single-throw							
095000	1640	15	5	25	42	1.04	
095001	1641	30	5	25	45	1.30	
Triple-pole, Double-throw							
095002	1658	15	1	10	15	1.40	
095003	1659	30	1	10	17	1.64	

### BRYANT ENTRANCE SWITCHES SCHEDULE J2

		Double-pole, 30 Amperes, 125 Volts					
Trade No.	Mfrs. No.	Location Fuses	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	
021085	1695	Top	1	100	185	\$0.90	
021086	1981	Bottom	1	100	185	.90	
021087	*1692	Top	1	100	240	1.00	
021088	*1985	Bottom	1	100	240	1.00	
Triple-pole, 30 Amperes, 125 Volts							
021089	1693	Top	1	50	155	1.40	
021090	1986	Bottom	1	50	155	1.40	

### BRYANT PANEL SWITCHES SCHEDULE J2

		30 Amperes, 125 Volts, Double-pole, Single Branch					
Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each	
021091	1851	Fuses at top	1	100	240	\$1.00	
021092	1982	Fuses at bottom	1	100	240	1.00	
021093	*1694	Fuses at top	1	50	125	1.10	
021094	*1987	Fuses at bottom	1	50	125	1.10	
30 Amperes, 125 Volts, Double-pole, Double Branch							
021095	1852	Vertical mains	1	50	180	2.00	
021096	1983	Horizontal mains	1	50	180	2.00	
30 Amperes, 125 Volts, Triple to Double-pole, Double Branch							
021097	1947	Vertical mains	1	50	225	2.10	
021098	1984	Horizontal mains	1	50	225	2.10	

\*These switches have 250-volt spacings but are approved for use only on 125 volts.



## SQUARE D SWITCHES



No. 56353 Open

Square D Boxes are made with openings at each end in which end plates are to be inserted to meet any desired wiring requirements and it is necessary to order end plates with each box to have the device complete.

End plates to fit ends of Class A boxes are listed as Class A end plates.

End plates to fit ends of Class B boxes are listed as Class B end plates.

End plates to fit ends of Class C boxes are listed as Class C end plates.

When ordering switches be sure to specify the Mfrs. Nos. of end plates or meter trims wanted. If end plates are not specified and unless definite instructions are given not to furnish switches complete with end plates, end plates will be shipped and billed suitable for use with switches ordered.

## SQUARE D SWITCHES

125 VOLTS—FOR EDISON PLUG FUSES

## Double-pole

Trade No.	Mfrs. No.	Amps	Class of End Plates to Fit	Wt. Lbs.	Price, Each with End Plates	If desired without End Plates Deduct
111555	56211	30	A	4 $\frac{1}{2}$	\$3.50	\$0.50
147622	96211	30	†	4 $\frac{3}{4}$	3.00	
Triple-pole						
111556	56311	30	A	4 $\frac{3}{4}$	5.00	.50
147623	†57311	30	A	4 $\frac{3}{4}$	4.00	.50
147624	96311	30	†	5	4.50	
147625	†97311	30	†	4 $\frac{3}{4}$	4.50	
Four-pole						
111557	56411	30	A	10	6.50	.50

250 VOLTS—FOR N. E. C. S. FUSES AT BOTTOM

## Double-pole

111558	56251	30	A	6	5.68	.54
147627	96251	30	†	6 $\frac{1}{4}$	5.14	
111578	56252	60	B	11 $\frac{3}{4}$	16.42	1.30
111579	56253	100	B	21 $\frac{1}{4}$	25.06	1.30
111580	56254	200	C	41	44.72	1.52
111581	56255	400	C	80	77.12	1.52
50101	56256	600	*	100	129.00	
50102	56257	800	*	125	216.00	
50103	56258	1200	*	190	378.00	
Triple-pole						
111559	56351	30	A	8	7.66	.54
147628	96351	30	†	8 $\frac{1}{4}$	7.12	
111582	56352	60	B	20	22.90	1.30
111583	56353	100	B	30	35.86	1.30
111584	56354	200	C	58	55.32	1.52
138759	56355	400	C	95	109.52	1.52
50104	56356	600	*	145	178.20	
50105	56357	800	*	170	324.00	
50106	56358	1200	*	375	486.00	
Four-pole						
111560	56451	30	A	12	10.90	.54
138760	56452	60	B	25	31.54	1.30
138761	56453	100	B	38	44.50	1.30
138762	56454	200	C	77	66.32	1.52
138763	56455	400	C	120	136.52	1.52
50107	56456	600	*	170	226.80	
50108	56457	800	*	310	432.00	
50109	56458	1200	*	430	594.00	

250-VOLT SEVERE SERVICE SWITCHES

## Double-pole

50110	50251	30	B	11 $\frac{3}{4}$	15.34	1.30
50081	50351	30	B	20	20.74	1.30
50082	50451	30	B	25	26.14	1.30

Always specify Mfrs. No. of end plates wanted. Prices do not include fuses.  
 \*Solid ends. Ends of solid-end boxes will be drilled to order at 50 cents per hole. †Solid Neutral.

†Solid ends, four knockouts for  $\frac{1}{2}$ -inch conduit in each end of box.

Always specify  
 \*Solid ends  
 †250 volts



# SQUARE D SWITCHES

## SINGLE THROW—QUICK BREAK—NOT FUSIBLE

250 VOLTS D. C. AND 550 VOLTS A. C.

All switches of the 51000 series are quick break except Nos. 51251, 51351, 51451.

### Double Pole

Trade No.	Mfrs. No.	Amperes	Class of End Plates to Fit	Wt. Lbs.	Price, Each with End Plates	If desired Without End Plates Deduct
93987	†51251	30	A	5	\$5.40	\$0.54
93988	51242	30 and 60	B	11	15.34	1.30
93989	51243	100	B	13	19.66	1.30
93990	51244	200	B	23	27.21	1.52
93991	51245	400	C	39	55.52	1.52
93992	51246	600	*	60	109.52	....
93993	51247	800	*	80	194.40	....
93994	51248	1200	*	110	297.00	....

### Triple Pole

93995	†51351	30	A	5	7.02	.54
93996	51342	30 and 60	B	14	19.66	1.30
93997	51343	100	B	17	25.06	1.30
93998	51344	200	B	34	40.18	1.30
93999	51345	400	C	61	71.72	1.52
94000	51346	600	*	90	136.52	....
94001	51347	800	*	120	270.00	....
94002	51348	1200	*	160	378.00	....

### Four Pole

94003	†51451	30	A	10	10.26	.54
94004	51442	30 and 60	B	17	25.06	1.30
94005	51443	100	B	20	31.54	1.30
94006	51444	200	C	50	53.36	1.52
94007	51445	400	C	90	98.72	1.52
94008	51446	600	*	110	162.00	....
94009	51447	800	*	145	345.60	....
94010	51448	1200	*	256	459.00	....

## DOUBLE THROW—NOT FUSIBLE

125 VOLTS, TRIPLE POLE

94011	52311	30	A	5 <sup>3</sup> / <sub>4</sub>	14.10	.54
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250 VOLTS D. C. AND 550 VOLTS A. C.

### Double Pole

94012	†52251	30	A	11	14.58	.54
94013	52242	30 and 60	B	14	19.66	1.30
94014	52243	100	B	16	25.06	1.30
94015	52244	200	B	30	44.50	1.30
94016	52245	400	C	52	77.12	1.52
94017	52246	600	*	90	129.60	....
94018	52247	800	*	110	216.00	....
94019	52248	1200	*	260	378.00	....

### Triple Pole

94020	†52351	30	A	16	17.82	.54
94021	52342	30 and 60	B	15 <sup>1</sup> / <sub>2</sub>	22.90	1.30
94022	52343	100	B	23	35.86	1.30
94023	52344	200	C	56	55.52	1.52
94024	52345	400	C	90	109.52	1.52
94025	52346	600	*	145	178.20	....
94026	52347	800	*	155	324.00	....
94027	52348	1200	*	400	1486.00	....

### Four Pole

94028	†52451	30	A	17	27.54	.54
94029	52442	30 and 60	B	21	33.70	1.30
94030	52443	100	B	27	44.50	1.30
94031	52444	200	C	65	66.32	1.52
94032	52445	400	C	110	135.00	1.52
94033	52446	600	*	175	226.80	....
94034	52447	800	*	260	432.00	....
94035	52448	1200	*	500	594.00	....

Always specify Mfrs. No. of end plates wanted.

\*Solid ends. Ends of solid-end boxes will be drilled to order at 50 cents per hole.

†250 volts only, porcelain base.



## SQUARE D SWITCHES

No. 56343  
Cover ClosedNo. 56343  
Cover Open

No. 56262

550 VOLTS A. C.—FOR N. E. C. S. FUSES AT BOTTOM

## Triple-pole

Trade No.	Mfrs. No.	Amperes	Class of End Plates to Fit	Wt. Lbs.	Price, Each With End Plates	If Desired Without End Plates Deduct
138764	56341	30	B	22	\$23.98	\$1.30
138765	56342	60	B	23	25.06	1.30
138766	56343	100	B	32 1/4	39.10	1.30
73090	56344	200	C	....	58.76	1.52
73091	56345	400	*	....	129.60	....
73092	56346	600	*	....	194.40	....

## Four-pole

138767	56441	30	B	32	30.46	1.30
138768	56442	60	B	33	33.70	1.30
138769	56443	100	C	56	49.04	1.52
73093	56444	200	C	....	71.72	1.52
73094	56445	400	*	....	162.00	....
73095	56446	600	*	....	248.40	....

600 VOLTS—FOR N. E. C. S. FUSES

## Double-pole

71308	56261	30	B	21	25.06	1.30
71309	56262	60	B	21	26.14	1.30
71310	56263	100	C	42	44.72	1.52
71311	56264	200	C	62	60.92	1.52
71312	56265	400	*	135	162.00	....
138770	56266	600	*	160	270.00	....
138771	56267	800	*	175	351.00	....
138772	56268	1200	*	325	486.00	....

## Triple-pole

71313	56361	30	B	30	35.86	1.30
71314	56362	60	B	30	36.94	1.30
71315	56363	100	C	67	55.52	1.52
71316	56364	200	C	95	82.52	1.52
71317	56365	400	*	160	189.00	....
138773	56366	600	*	315	324.00	....
138774	56367	800	*	370	432.00	....
138775	56368	1200	*	430	594.00	....

## Four-pole

71318	56461	30	B	37	47.74	1.30
71319	56462	60	B	40	48.82	1.30
71320	56463	100	C	83	66.32	1.52
71321	56464	200	C	120	98.72	1.52
71322	56465	400	*	180	216.00	....
138776	56466	600	*	325	378.00	....
138777	56467	800	*	400	540.00	....
138778	56468	1200	*	525	702.00	....

Always specify Mfrs. Nos. of end plates wanted.

Prices do not include fuses.

\*Solid ends. Ends of solid-end boxes will be drilled to order at 50 cents per hole.



# SQUARE D ENCLOSED SWITCHES

## SINGLE THROW—QUICK BREAK—NOT FUSIBLE

600 VOLTS

### Double-Pole

Trade No.	Mfrs. No.	Amperes	Class of End Plates to Fit	Wt. Lbs.	Price, Each with End Plates	If Desired with out End Plates Deduct
94052	51262	30 and 60	B	13	\$21.82	\$1.30
94053	51263	100	B	20	33.70	1.30
94054	51264	200	C	33	44.72	1.52
94055	51265	400	*	62	97.20	.....
94056	51266	600	*	85	216.00	.....
94057	51267	800	*	86	270.00	.....
94058	51268	1200	*	125	405.00	.....

### Triple-Pole

94060	51362	30 and 60	B	23	28.30	1.30
94061	51363	100	C	26	44.72	1.52
94062	51364	200	C	56	60.92	1.52
94063	51365	400	*	90	135.00	.....
94064	51366	600	*	130	259.20	.....
94065	51367	800	*	130	378.00	.....
94066	51368	1200	*	250	513.00	.....

### Four-Pole

94068	51462	30 and 60	B	25	39.10	1.30
94069	51463	100	C	44	55.52	1.52
94070	51464	200	C	65	75.60	1.52
94071	51465	400	*	125	172.80	.....
94072	51466	600	*	230	324.00	.....
94073	51467	800	*	260	486.00	.....
94074	51468	1200	*	300	621.00	.....

## DOUBLE THROW—NOT FUSIBLE

600 VOLTS

### Double-Pole

94076	52262	30 and 60	B	19	29.38	1.30
94077	52263	100	C	26	44.72	1.52
94078	52264	200	C	52	60.92	1.52
94079	52265	400	*	90	162.00	.....
94080	52266	600	*	140	270.00	.....
94081	52267	800	*	143	351.00	.....
94082	52268	1200	*	315	486.00	.....

### Triple-Pole

94084	52362	30 and 60	B	27	42.34	1.30
94085	52363	100	C	41	55.52	1.52
94086	52364	200	C	80	82.52	1.52
94087	52365	400	*	130	189.00	.....
94088	52366	600	*	200	324.00	.....
94089	52367	800	*	270	432.00	.....
94090	52368	1200	*	490	594.00	.....

### Four-Pole

94092	52462	30 and 60	B	38	55.30	1.30
94093	52463	100	C	55	66.32	1.52
94094	52464	200	*	100	97.20	.....
94095	52465	400	*	180	216.00	.....
94096	52466	600	*	350	378.00	.....
94097	52467	800	*	380	540.00	.....
94098	52468	1200	*	600	602.00	.....

Always specify Mfrs. No. of end plates wanted.

Above prices do not include fuses.

\*Solid ends. Ends of solid-end boxes will be drilled to order at 50 cents per hole.



## SQUARE D SWITCHES



No. 78352 Open



No. 78352 Closed

## COMPENSATOR TYPE

Superseding 58000 Series

Municipal or suppliers' regulations require that each induction motor, of larger than 5 horsepower, be started by a compensator which is practically an auto-transformer having two sets of leads—one set supplying a low voltage to the motor for starting and the other full line voltage for running.

On incoming service it is necessary that a main switch be installed ahead of the compensator, making it possible to cut off all power through the latter. With this switch open, contact renewals, changing of oil, or repairs on the compensator may be made in safety.

By using a Square D Compensator Type Switch, the dangerous installation of an unfused open switch and separate exposed cut-out is avoided. Switch and cut-out are combined within a stamped steel box and the switch is operated without danger of shock or burn, by the handle outside the box.

This compensator type is universal in its application, being adapted for use with any make of compensator. It is made the same as our standard fused switch (Industrial Control Type), except that removable connecting links are provided between switch hinge jaws and upper fuse clips and that solder lugs are attached to both hinge jaws and upper fuse clips for connection to compensator.

Where overload relays are employed on compensator installations, unfused switches should be used.

## 250 Volts—Triple Pole

Trade No.	Mfrs. No.	Amps.	Class of End Plates to Fit	Wt. Lbs.	Price, Each with End Plates	If Desired without End Plates Deduct
143601§	78351§	30	B	22½	\$25.06	\$1.30
143602	78352	60	B	23	27.22	1.30
143603	78353	100	B	33	42.34	1.30
143604	78354	200	C	64	62.00	1.52
94111	78355	400	C	95	125.72	1.52
94112	78356	600	*	145	216.00	....
94113	78357	800	*	170	378.00	....
94114	78358	1200	*	375	540.00	....

\*Solid ends. Ends of solid-end boxes will be drilled to order at 50 cents per hole.

Always specify Mfrs. No. of end plates wanted. Prices do not include fuses.

Dimensions are the same as for standard steel enclosed switches of like capacities.

§Made with 60-ampere blades and quick-break mechanism but with 30-ampere fuse spacing.



# SQUARE D SWITCHES

## COMPENSATOR TYPE—Continued

### 250 Volts, Four-pole

Trade No.	Mfrs. No.	Amps.	Class of End Plates to Fit	Wt. Lbs.	Price, Each with End Plates	If Desired with out End Plates Deduct
94115	§78451	30	B	24	\$28 30	\$1 30
94116	78452	60	B	26	34 78	1 30
94117	78453	100	C	55	51 20	1 52
94118	78454	200	C	77	74 96	1 52
94119	78455	400	C	120	162 00	1 52
94120	78456	600	*	170	270 00	—
94121	78457	800	*	310	486 00	—
94122	78458	1200	*	430	648 00	—

### 550 Volts, Triple-pole

143605	78341	30	B	25	28 30	1 30
143606	78342	60	B	26	29 38	1 30
143607	78343	100	B	35	44 50	1 30
190486	78344	200	C	65	66 32	1 52
190487	78345	400	*	135	135 00	—
190488	78346	600	*	150	243 00	—

### 550 Volts, Four-pole

190489	78441	30	B	32	33 70	1 30
190490	78442	60	B	36	35 86	1 30
190491	78443	100	C	57	53 36	1 52
190492	78444	200	C	80	82 52	1 52
190493	78445	400	*	160	183 60	—
190494	78446	600	*	245	302 40	—

### 600 Volts, Triple-pole

94123	78361	30	B	32	39 10	1 30
94124	78362	60	B	33	41 26	1 30
94125	78363	100	C	69	68 48	1 52
143608	78364	200	C	98	98 72	1 52
94126	78365	400	*	160	205 20	—
94127	78366	600	*	315	378 00	—
94128	78367	800	*	370	486 00	—
94129	78368	1200	*	430	675 00	—

### 600 Volts, Four-pole

94130	78461	30	B	39	52 06	1 30
94131	78462	60	B	40	55 30	1 30
94132	78463	100	C	85	80 36	1 52
94133	78464	200	C	120	118 80	1 52
94134	78465	400	*	180	243 00	—
94135	78466	600	*	325	442 80	—
94136	78467	800	*	400	594 00	—
94137	78468	1200	*	525	783 00	—

\*Solid ends. Ends of solid ends boxes will be drilled to order at 50 cents per hole.

†With one conduit and one slotted fiber end plate.

‡With one open wiring and one slotted fiber end plate.

Always specify Mfrs. Nos. of end plates wanted. Prices do not include fuses.

Dimensions are the same as for standard steel enclosed switches of like capacities.

§Regularly made with 60-ampere switch blades.



## SQUARE D SWITCHES

## NEW STYLE MOTOR STARTERS

QUICK-MAKE-AND-BREAK—SEPARATE BASES—SINGLE-THROW  
Double-pole—250 Volts A. C.

Trade No.	Mfrs. No.	Amperes	Class of End Plates to Fit	Wt. Lbs.	Price, Each with End Plates	If Desired without End Plates Deduct
203201	76251	30	A	11	\$22.14	\$0.54
203202	76351	30	A	13	26.46	.54
203203	76352	60	B	22	33.70	1.30
203204	76341	30	B	22	35.86	1.30
203205	76342	60	B	29	42.34	1.30
203206	76451	30	A	16	32.94	.54
203207	76452	60	B	32	44.50	1.30
203208	76441	30	B	32	44.50	1.30
203209	80251	30	B	14 $\frac{3}{4}$	20.74	1.30
203210	80351	30	B	15 $\frac{3}{4}$	26.14	1.30
203211	81242	60	B	12	19.66	1.30
203212	81342	60	B	16	23.98	1.30
203213	86251	30	A	5	10.90	.54
203214	86252	60	B	15	21.82	1.30
203215	86253	100	B	21	30.46	1.30
203216	86351	30	A	9	16.30	.54
203217	86352	60	B	20	28.30	1.30
203233	86353	100	B	32	42.34	1.30
203218	86341	30	B	20	31.54	1.30
203219	86342	60	B	21	32.62	1.30
203220	86451	30	A	12	21.70	.54
147625	97311	30	*	4 $\frac{3}{4}$	4.50	....
203222	†97312	60	*	12	15.60	....
203223	†97313	100	*	20 $\frac{3}{4}$	23.00	....

†Suitable for electric range installation, 3-wire, 250 volts.  
\*Solid ends.

## KEYS FOR COVER CONTROL ON QUICK-MAKE-AND-BREAK SWITCHES

Will permit inspection under load.

Trade No.	Mfrs. No.	Carton Quantity	Std. Pkg.	Price Each
203224	70000	10	100	\$0.54

## TEST PLUGS AND SOCKETS

In Square D Safety Switches, load testing, always possible by merely opening the switch door, may be facilitated by the use of test plugs and sockets.

Trade No.	Mfrs. No.	Amperes	Carton Quantity	Std. Pkg.	Price Each
203225	70123	30-100	10	100	\$4.32
203226	70124	200	5	50	6.48
203227	70126	400-600	1	5	10.80
203228	70632	30-60	50	500	.86
203229	70633	100	50	500	.86
203230	70644	200	25	250	1.30
203231	70665	400	5	5	2.70
203232	70666	600	5	5	2.70



## SQUARE D SWITCHES

### SQUARE D MOTOR STARTERS

Double throw knife blade type for induction motors. Fused running side, equipped with lock-off attachment. Latch prevents throwing switch in running position without first being thrown in starting position. When used with Star-Delta starting connection, a separate main line switch must be installed ahead of starter to comply with National Electrical Code.

#### Straight Induction Type, Two and Three-phase

Trade No.	Mfrs. No.	Amps.	Volts	Depth of Box Inches	Class End Plates to Fit	Wt. Lbs.	Price, Each with End Plates	If Desired without End Plates Deduct
143609	66351	30	250	3	A	14 1/2	\$18.36	\$0.54
143615	66352	60	250	4	B	27	28.30	1.30
143616	66353	100	250	4	B	30	55.30	1.30
95831	66451	30	250	3	A	17	22.14	.54
95833	66452	60	250	4	B	27	33.70	1.30
143610	66341	30	550	4	B	27	28.30	1.30
143611	66342	60	550	4	B	27 1/2	30.46	1.30
95832	66441	30	550	4	B	31	33.70	1.30

#### Star-Delta Type, Three-phase

143612	65351	30	250	3	A	14 1/2	18.36	.54
143617	65352	60	250	4	B	27	28.30	1.30
143618	65353	100	250	4	B	30	55.30	1.30
143613	65341	30	550	4	B	27	28.30	1.30
143614	65342	60	550	4	B	27 1/2	30.46	1.30

Prices do not include fuses.

### SPECIAL END PLATES

Special slotted fibre-bushed end plates are required for bottoms of Star-Delta Motor Starters and Compensator Type Switches so that extra leads will pass through easily. Standard conduit or open-wiring end plates should be ordered only for tops of these switches. No. 18318 is for use with cut-out box No. 35211, either top or bottom.

Trade No.	Mfrs. No.	Class	Price Each	Trade No.	Mfrs. No.	Class	Price Each
143619	19382	A	\$0.24	143621	19586	C	\$0.70
143620	19484	B	.64	95934	18318	A	.24

### SQUARE D RECEPTACLES AND ATTACHMENT PLUGS

Plug is so shaped as to prevent reversing polarity when inserting in receptacle. Terminals in receptacle mounted in porcelain with 30 ampere. National Electrical Code-Standard fuse spacings.

#### Plug Receptacles

Trade No.	Mfrs. No.	No. of Poles	Amps.	Volts	Weight Lbs.	Price Each
71305	5001	2	30	250	4 1/4	\$6.48

#### Attachment Plugs

71307	5021	2	30	250	1/4	2.00
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### SQUARE D CUT-OUT BOXES

Can be attached to any Square D Safety Switch either above or below with special end plate No. 18318. Removable link allows connections for either three-wire service, two-wire distribution or two-wire service, two-wire distribution. Equipped for Edison plug fuses.

Trade No.	Mfrs. No.	Amps.	Class of End Plates to Fit	Wt. Lbs.	Price, Each with End Plates	If Desired without End Plates Deduct
147626	35211	30	A	4	\$3.20	\$0.50

### PORCELAIN ENTRANCE SWITCHES

#### With Solid Ends

Trade No.	Mfrs. No.	Amps.	Volts	No. of Poles	Std. Pkg.	Price Each
95835	1211	30	125	2	15	\$2.30

Enclosed in porcelain case.

### CONDUIT ADAPTERS

#### For Use with No. 1211

Trade No.	Mfrs. No.	Std. Pkg.	Price Each
95836	1210	15	\$0.20



Nos. 66351 and 65351



No. 19484



No. 5001  
with Plug Inserted



No. 5001  
Interior View



No. 35211



## SQUARE D SWITCHES

STANDARD END PLATES, DETACHABLE AND  
INTERCHANGEABLE

Class A end plates for use with Class A boxes, 3 inches deep. Plate,  $4\frac{1}{2} \times 3$  inches. Class B end plates for use with Class B boxes, 4 inches deep. Plate,  $6\frac{3}{4} \times 4$  inches. Class C end plates for use with Class C boxes, 5 inches deep. Plate,  $8\frac{1}{4} \times 5$  inches.

## CLASS A CONDUIT END PLATES

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt., Lbs. Carton	Price Each
71323	18300	Blank	10	100	$2\frac{1}{2}$	\$0.24
71324	18312	1 K. O. for $\frac{3}{4}$ -in. conduit	10	100	$2\frac{1}{2}$	.24
71325	18313	1 K. O. for 1 -in. conduit	10	100	$2\frac{1}{2}$	.24
60317	18314	1 K. O. for $1\frac{1}{4}$ -in. conduit	10	100	$2\frac{1}{2}$	.24
71326	18322	2 K. O. for $\frac{3}{4}$ -in. conduit	10	100	$2\frac{1}{2}$	.24
71327	18323	2 K. O. for 1 -in. conduit	10	100	$2\frac{1}{2}$	.24
111561	18331	3 K. O. for $\frac{1}{2}$ -in. conduit	10	100	$2\frac{1}{2}$	.24

CLASS A OPEN WIRING END PLATES WITH  
PORCELAIN COVERS

71338	19321	2— $\frac{3}{4}$ -in. holes	10	100	3	.24
71339	19322	2— $\frac{1}{2}$ -in. holes	10	100	3	.24
71340	19331	3— $\frac{3}{4}$ -in. holes	10	100	3	.24
71341	19332	3— $\frac{1}{2}$ -in. holes	10	100	3	.24
71342	19341	4— $\frac{3}{4}$ -in. holes	10	100	3	.24
71343	19342	4— $\frac{1}{2}$ -in. holes	10	100	3	.24
71344	19351	5— $\frac{3}{4}$ -in. holes	10	100	3	.24
71345	19352	5— $\frac{1}{2}$ -in. holes	10	100	3	.24
60319	19382	Slotted-Fibre-Bushed	10	100	3	.24

## CLASS B CONDUIT END PLATES

71328	18400	Blank	5	50	$3\frac{1}{4}$	.64
71329	18412	1 K. O. for $\frac{3}{4}$ -in. conduit	5	50	$3\frac{1}{4}$	.64
71330	18413	1 K. O. for 1 -in. conduit	5	50	$3\frac{1}{4}$	.64
138779	18414	1 K. O. for $1\frac{1}{4}$ -in. conduit	5	50	$3\frac{1}{4}$	.64
138780	18415	1 K. O. for $1\frac{1}{2}$ -in. conduit	5	50	$3\frac{1}{4}$	.64
60320	18416	1 K. O. for 2 -in. conduit	5	50	$3\frac{1}{4}$	.64
138781	18423	2 K. O. for 1 -in. conduit	5	50	$3\frac{1}{4}$	.64
138782	18424	2 K. O. for $1\frac{1}{4}$ -in. conduit	5	50	$3\frac{1}{4}$	.64
138783	18425	2 K. O. for $1\frac{1}{2}$ -in. conduit	5	50	$3\frac{1}{4}$	.64
138784	18431	3 K. O. for $\frac{1}{2}$ -in. conduit	5	50	$3\frac{1}{4}$	.64
138785	18432	3 K. O. for $\frac{3}{4}$ -in. conduit	5	50	$3\frac{1}{4}$	.64
60316	18483	Adapter end plate	5	50	$1\frac{1}{2}$	.64

CLASS B OPEN WIRING END PLATES WITH  
PORCELAIN COVERS

71346	19422	2— $\frac{1}{2}$ -in. holes	5	50	4	.64
71347	19423	2— $\frac{3}{4}$ -in. holes	5	50	4	.64
71348	19424	2—1 -in. holes	5	50	4	.64
71349	19432	3— $\frac{1}{2}$ -in. holes	5	50	4	.64
71350	19433	3— $\frac{3}{4}$ -in. holes	5	50	4	.64
71351	19434	3—1 -in. holes	5	50	4	.64
71352	19442	4— $\frac{1}{2}$ -in. holes	5	50	4	.64
60305	19443	4— $\frac{3}{4}$ -in. holes	5	50	4	.64
60306	19444	4—1 -in. holes	5	50	4	.64
60307	19452	5— $\frac{1}{2}$ -in. holes	5	50	4	.64
60308	19493	1— $\frac{1}{2}$ and 4— $\frac{3}{4}$ -in. holes	5	50	4	.64
60309	19494	1— $\frac{1}{2}$ and 4—1 -in. holes	5	50	4	.64
60321	19484	Slotted-Fibre-Bushed	10	50	4	.64

## CLASS C CONDUIT END PLATES

138786	18500	Blank	5	25	$4\frac{3}{4}$	.70
138787	18515	1 K. O. for $1\frac{1}{2}$ -in. conduit	5	25	$4\frac{3}{4}$	.70
138788	18516	1 K. O. for 2 -in. conduit	5	25	$4\frac{3}{4}$	.70
60322	18517	1 K. O. for $2\frac{1}{2}$ -in. conduit	5	25	$4\frac{3}{4}$	.70
138789	18525	2 K. O. for $1\frac{1}{2}$ -in. conduit	5	25	$4\frac{3}{4}$	.70
60318	18583	Adapter end plate	5	25	$3\frac{3}{4}$	.70

CLASS C OPEN WIRING END PLATES WITH  
PORCELAIN COVERS

60310	19524	2— $\frac{3}{4}$ -in. holes	5	25	$5\frac{1}{2}$	.70
60311	19525	2—1 -in. holes	5	25	7	.70
60312	19534	3— $\frac{3}{4}$ -in. holes	5	25	$5\frac{1}{2}$	.70
60313	19535	3—1 -in. holes	5	25	7	.70
60314	19544	4— $\frac{3}{4}$ -in. holes	5	25	$5\frac{1}{2}$	.70
60315	19594	1— $\frac{1}{2}$ and 4— $\frac{3}{4}$ -in. holes	5	25	$5\frac{1}{2}$	.70
60323	19586	Slotted-Fibre-Bushed	15	30	6	.70



No. 18300



No. 18412



No. 19422



No. 18515



No. 19535



# SQUARE D STEEL ENCLOSED SWITCHES

## METER PROTECTIVE TRIMS

Meter Protective Trims are used primarily with Class A boxes, 3 inches deep. Class B boxes, 4 inches deep, require the use of adapter end plate, No. 18483, with the meter trim. Class C boxes, 5 inches deep, require adapter end plate No. 18583 with the meter trim.

Top trims are used at top of boxes; bottom trims at bottom of boxes. Bottom connected meters require top trims; top connected meters require bottom trims. Reversible trims may be used at either top or bottom of box.

No. 11512 is a bottom trim for use with G. E. Type I-14 or F. W. Type K-5 meters. These meters are both bottom connected and No. 11512 trim is so designed that these bottom connected meters may be used at bottom of the box to meet special requirements.

All meter trims are made of sheet steel except Nos. 11515 and 11516 which are of non-magnetic metal. Nos. 11515 and 11516 are for use with high capacity direct-current meters which are affected by stray magnetic fields.

If trims are required for types of meters not mentioned below, quotations will be furnished on request.



No. 11508



No. 11505



No. 11503



No. 11507



No. 11514



No. 11504



No. 11501



No. 11502

For Top or									
Trade No.	Mfrs. No.	Bottom of Box	Make of Meter	Type of Meter	No. of Service Wires	Volts	Amps.	Wt. Lbs.	Price Each
147633	11508	Top	Can. G. E.	I-9	S. Ph. 2&3	110-220	3-75	1 1/2	\$0.98
147634	11517	Top	C. & H.	A-1	S. Ph. 2	100-600	5-200	1 1/2	82
147635	11517	Top	C. & H.	A-1	S. Ph. 3	200-600	5-100	1 1/2	82
147636	11505	Top	Duncan	M-2	S. Ph. 2	110-600	5-25	3 1/4	64
147637	11505	Top	Duncan	M-2	S. Ph. 3	110-600	5-15	3 1/4	64
147638	11503	Top	Ft. W.	K-5	S. Ph. 2&3	110-220	5-25	1 1/2	38
147639	11507	Top	Ft. W.	K-4	S. Ph. 2	220	5-25	1 1/2	60
147640	11507	Top	Ft. W.	Form S.A.A.	S. Ph. 2&3	220	5-15	1 1/2	60
147641	11514	Bot.	Ft. W.	K-3	S. Ph. 2	100-625	5-50	1 1/2	64
147642	11514	Bot.	Ft. W.	Form S.B.A.	S. Ph. 3	200-500	5-50	1 1/2	64
147643	11518	Bot.	Ft. W.	K	S. Ph. 2	110	5-25	1	3 78
				Form S.A.A.					
147644	11512	Bot.	Ft. W.	K-5	S. Ph. 2&3	110-220	5-25	2 1/4	2 26
147645	11524	Rev.	Ft. W.	K-3	3 Ph. 3&4	110	5-25	3 1/2	3 78
				Form M.A.B.					
147646	11504	Top	G. E.	I-10	S. Ph. 2	110-220	5-25	1 1/2	64
147647	11504	Top	G. E.	I-10	S. Ph. 3	110-220	5-15	1 1/2	64
147648	11503	Top	G. E.	I-14	S. Ph. 2&3	110-220	5-25	1 1/2	38
147649	11526	Top	G. E.	I-14	S. Ph. 2&3	110-220	50-75	3 1/4	1 40
147650	11512	Bot.	G. E.	I-14	S. Ph. 2&3	110-220	5-25	2 1/4	2 26
147651	11506	Rev.	G. E.	I	S. Ph. 2	100-650	3-25	1 3/4	2 48
147652	11506	Rev.	G. E.	I	S. Ph. 3	110-650	3-25	1 3/4	2 48
147653	11510	Rev.	G. E.	I	S. Ph. 2	100-600	50-75	2 1/2	3 24
147654	11510	Rev.	G. E.	I	S. Ph. 3	220	50-75	2 1/2	3 24
147655	11515	Rev.	G. E.	C-6	D. C. 2	110-220	5-50	1 1/4	5 40
147656	11515	Rev.	G. E.	C-6	D. C. 3	200	5-50	1 1/4	5 40
147657	11516	Rev.	G. E.	C-7	D. C. 2	500-600	5-50	2	5 40
147658	11513	Rev.	G. E.	D-3	2&3 Ph. 3	100-600	3-75	3 1/4	3 78
147659	11513	Rev.	G. E.	D-3	2&3 Ph. 4	100-600	3-75	3 1/4	3 78
147660	11525	Rev.	G. E.	D-6	2&3 Ph. 3&4	220 & 440	5-25	2 1/2	3 02
147661	11521	Top	Sangamo H Old Model		S. Ph. 2	110	5-15	1 1/2	64
147662	11505	Top	Sangamo H New		S. Ph. 2	110-550	5-15	1 1/2	64
173597	11528	Top	Sangamo H New Model		S. Ph. 2&3	110-550	25-100	3 1/4	60
173598	11523	Top	Sangamo	D-5	D. C. 2	110-220	10-100	3 1/4	60
173599	11527	Rev.	Sangamo	H-2	Polyphase	110-550	5-100	3 1/4	3 78
147664	11501*	Top	West.	O. A.	S. Ph. 2	100-200-400	5-10	1 1/2	44
147665	11501*	Top	West.	O. A.	S. Ph. 3	100-200	5-10	1 1/2	44
147666	11523*	Top	West.	O. A.	S. Ph. 2	100-400	5-10	1 1/2	60
147667	11523*	Top	West.	O. A.	S. Ph. 3	100-200	5-10	1 1/2	60
147668	11511†	Top	West.	O. A.	S. Ph. 2	100-200-400	15-80	3 1/4	60
147669	11511†	Top	West.	O. A.	S. Ph. 3	100-200	15-60	3 1/4	60
147670	11522†	Top	West.	O. A.	S. Ph. 2	100-400	15-80	1 1/2	60
147671	11522†	Top	West.	O. A.	S. Ph. 3	100-200	15-60	1 1/2	60
147672	11519	Rev.	West.	O. A.	2 Ph. 3	100-500	5-300	3 1/2	3 24
147673	11519	Rev.	West.	O. A.	2 Ph. 4	100-500	5-300	3 1/2	3 24
147674	11519	Rev.	West.	O. A.	3 Ph. 3	100-500	5-300	3 1/2	3 24
147675	11519	Rev.	West.	O. A.	3 Ph. 4	100-500	5-25	3 1/2	3 24
147676	11502	Bot.	West.	C	S. Ph. 2	100-200	5-20	1 1/2	64
147677	11502	Bot.	West.	C	S. Ph. 2	100-500	5-20	1 1/2	64
147678	11520	Rev.	West.	C	2 Ph. 3	100-500	5-40	4	3 24
147679	11520	Rev.	West.	C	3 Ph. 3	100-500	5-40	4	3 24
147680	11520	Rev.	West.	C	2 Ph. 4	100-500	5-40	4	3 24
147681	11520	Rev.	West.	C	3 Ph. 4	100-500	5-40	4	3 24

\*Mfrs. Nos. 11501 and 11523 are similar except that No. 11501 is used with the meter terminal cover and holding stud in place, while No. 11523 is used when terminal cover and holding stud are removed.

†Mfrs. Nos. 11511 and 11522 are similar except that No. 11511 is used with the meter terminal cover and holding stud in place, while No. 11522 is used when terminal cover and holding stud are removed.



## SQUARE D SWITCHES AND MOTOR STARTERS



No. 7251



No. 6351



No. 6361



No. 18713



No. 18721



No. 19722



No. 19732

Provided with openings at top and bottom of the boxes. For which detachable end plates are furnished, either of cast iron for rigid conduit or of sheet steel with porcelain cover for open wiring.

## IRONCLAD SWITCHES

Standard Type—Cast Iron Boxes—For N. E. C. S. Fuses  
250 Volts, Double Pole

Trade No.	Mfrs. No.	Amps.	Class of End Plates to Fit	Net Wt., Lbs.	Price, Each with End Plates
062785	7251	30	1	12	\$18.36

## IRONCLAD MOTOR STARTERS

250 Volts, Three-phase

062797	6351	30	1	26	41.04
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250 Volts, Two-phase

11987	6451	30	1	28	44.28
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600 Volts, Three-phase

057560	6361	30	2	76	66.52
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Above switches and motor starters can be equipped with padlock and clamp, to lock them in the "Off" position. For \$1.50 per switch, net, additional.

Above prices do not include fuses or end plates.  
NOTE.—When ordering be sure to specify the Mfrs. Nos. of end plates wanted. If end plates are not specified, and unless definite instructions are given not to furnish switches complete with end plates, end plates will be billed and shipped suitable for use with switches ordered.

## STANDARD END PLATES

CLASS 1.—For use only with Ironclad Switches and Motor Starters of 30 amperes capacity, 250 volts.

CLASS 2.—For use only with Ironclad Motor Starter 30 amperes, 600 volts.

## CAST IRON END PLATES FOR RIGID CONDUIT

Class 1—Carton Quantity 5; Standard Package 50

Trade No.	Mfrs. No.	No. and Size Conduit	Price Each	Trade No.	Mfrs. No.	No. and Size Conduit	Price Each
59162	18711	1-1/2-in.	\$0.54	59176	18721	2-1/2-in.	\$0.54
59163	18712	1-3/4-in.	.54	59177	18722	2-3/4-in.	.54
59164	18713	1-1-in.	.54	59178	18723	2-1-in.	.54
59165	18714	1-1/4-in.	.54				

Class 2—Carton Quantity 5; Standard Package 25

59166	18813	1-1-in.	.86	59179	18823	2-1-in.	.86
59167	18814	1-1 1/4-in.	.86				

## SHEET STEEL END PLATES FOR OPEN WIRING

Class 1—Carton Quantity 10; Standard Package 100

Trade No.	Mfrs. No.	No. & Diam. Holes	Price Each	Trade No.	Mfrs. No.	No. & Diam. Holes	Price Each
59168	19700	Blank	\$0.54	089062	19732	3-1 1/2-in.	\$0.54
59169	19721	2-5/8-in.	.54	089063	19741	4-5/8-in.	.54
59170	19722	2-1 1/2-in.	.54	089064	19742	4-1 1/2-in.	.54
59171	19731	3-5/8-in.	.54				

Class 2—Carton Quantity 5; Blanks 10; Standard Package 50

59172	19800	Blank	\$0.86	089065	19833	3-5/8-in.	\$0.86
59173	19822	2-1 1/2-in.	.86	089066	19842	4-1 1/2-in.	.86
59174	19823	2-5/8-in.	.86	089067	19843	4-5/8-in.	.86
59175	19832	3-1 1/2-in.	.86				



## COLUMBIA MULTIPLE BATTERIES



The Columbia Multiple Battery is a unit proposition. Only two connections have to be made. Inside the hermetically sealed box the cells are separated by wooden pieces, and then are held in place and entirely covered by a solid waterproof insulating compound which absolutely prevents any motion of the separate cells. The connections are not temporarily made to the binding posts by light wires but are permanently soldered copper strip so that the resistance between each pair of cells is practically nothing.

This battery represents the latest developments in primary battery manufacture, and combines maximum efficiency and reliability with simplicity. Its uses can be classified under three heads, motor ignition, lighting and miscellaneous.

**MOTOR IGNITION.**—On automobiles, trucks, motor boats, gas or gasoline launches, etc.

**LIGHTING.**—On automobiles for such lights as tail, side, limousine, etc., and for exploration or trouble lamps on extension cord. On power boats for running lights and the lights used in lockers, cabins, etc.

**MISCELLANEOUS.**—Under this division may be listed a number of uses. Among them are mine signals, blasting equipments, transmitter circuits of telephone train dispatching systems vibrating and massage machines, electric horns and sirens.

**SELECTION OF A BATTERY.**—If the voltage for which apparatus was built is known, the proper battery can be figured by the following rule:

To obtain the approximate voltage of multiple battery, multiply the second digit in its number by  $1\frac{1}{4}$ . Example: No. 356 Multiple Battery,  $5 \times 1\frac{1}{4}$  gives  $6\frac{1}{4}$  volts. It is therefore evident that a No. 356 should be used on 6-volt equipment.

**CONNECTIONS.**—Place the battery in the position it is to occupy in service. Scrape the ends of the wires clean and bright; connect to the binding posts and screw the cap down tight.

### METAL CASE MULTIPLE BATTERIES

Trade No.	Type No.	Voltage	DIMENS., INCHES			Wt. Lbs.	Price Each
			Length	Width	Height Over All		
02874	156	$7\frac{1}{2}$	$13\frac{3}{4}$	3	$8\frac{3}{4}$	16	\$3.85
02875	266	9	11	$8\frac{1}{4}$	$8\frac{3}{4}$	37	7.20
02876	256	$7\frac{1}{2}$	$13\frac{3}{4}$	$5\frac{1}{2}$	$8\frac{3}{4}$	34	6.65
02877	356	$7\frac{1}{2}$	$13\frac{3}{4}$	$8\frac{1}{8}$	$8\frac{3}{4}$	50	9.10



## COLUMBIA BATTERIES

## HOT SHOT BATTERIES



Hot Shot Battery

These are unit batteries containing from three to ten specially made cells connected in combinations to meet all requirements from  $4\frac{1}{2}$  volts to 9 volts.

The batteries are designed especially for automobile ignition, for electric horns, for motor boat and gas engine ignition, for operating carriage electric lamps, for mine signals, for household service, and for electric toys; in fact, for every place where a reliable dry battery is needed.

The containing case is weatherproof fibre paper. The top is sealed with hard sealing-wax. Brass binding posts and cord handles are provided which make the outfit easy to carry.

The type number designates the number of cells and method of connecting them. The first figure designates the number of sets of cells and if more than one, these sets are connected in multiple; the second number, the number of cells in series; the third number, the size of the cells, and the last number shows whether the cells are arranged in one or two rows. Number 2462 means two sets of cells in multiple, four cells in series in each set, and No. 6 cells, two rows.

Trade No.	Mfrs. No.	Voltage	DIMENS., INCHES			Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
			Length	Width	Height			
202888	1361	$4\frac{1}{2}$	8	$2\frac{3}{4}$	$7\frac{1}{2}$	30	240	\$1.85
202889	1461	6	$10\frac{5}{8}$	$2\frac{3}{4}$	$7\frac{1}{2}$	24	262	2.40
202890	1462	6	$5\frac{3}{8}$	$5\frac{3}{8}$	$7\frac{1}{2}$	21	235	2.40
202891	1561	$7\frac{1}{2}$	$13\frac{1}{4}$	$2\frac{3}{4}$	$7\frac{1}{2}$	15	212	2.95
202892	1562	$7\frac{1}{2}$	8	5	$7\frac{1}{2}$	18	238	2.95
202893	1661	9	$15\frac{3}{4}$	$2\frac{3}{4}$	$7\frac{1}{2}$	13	213	3.60
202894	1662	9	8	$5\frac{3}{8}$	$7\frac{1}{2}$	13	213	3.60
202895	2462	6	$10\frac{5}{8}$	$5\frac{3}{8}$	$7\frac{1}{2}$	10	235	4.60
202896	2562	$7\frac{1}{2}$	$13\frac{1}{4}$	$5\frac{3}{8}$	$7\frac{1}{2}$	7	185	5.75



Bell Ringer

## BELL RINGER BATTERIES

The Columbia Bell Ringer consists of two dry cells compactly sealed into one unit with only two connections and attractively labeled.

The special features of this device are its absolute simplicity, its low cost to the consumer, the ease with which it may be installed, and its perfect imperviousness to the atmospheric changes to which bell ringing dry cells are usually subjected.

It is estimated that the Columbia Bell Ringer will give almost double the service usually given by two single cells connected up in the ordinary manner.

Prices Quoted upon Application.



**DRY BATTERIES**  
NORTHERN ELECTRIC DRY BATTERIES  
For Open Circuit Service



Northern Electric Telephone Battery

The Northern Telephone, Blue and Gray Label, is especially designed for telephone service and will outlast any other dry cell made when applied to the talking circuit in standard telephone local battery equipment.

Trade No.	Mfrs. No.	Size Inches	Wt., Lbs. per Cell	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
102907	6	2½x6	2	125	300	\$0.50

Every barrel of batteries that bears a Northern Electric label is guaranteed for the Special Service for which they are designed.

**COLUMBIA DRY BATTERIES**



Columbia Ignitor



Columbia Six

Trade No.	Mfrs. No.	Size Inches	Description	WITH COLLAR		WITHOUT COLLAR	
				Wt., Lbs. per Cell	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
2908	6	2½x6	Columbia Six Dry Battery	2	125	300	\$0.50
2909	6	2½x6	Columbia Six Ignitor Battery	2	125	300	.50

NOTE.—Fahnestock clips will be furnished, when specified, without extra charge. Add inch to height for connections.



## EDISON PRIMARY BATTERIES



Type S-202

Type S-202  
Edge View

Type S-206



Type S-208



Tray for Types S-202 and S-252

## TYPE S-202

Capacity, 200 Ampere Hours

Furnished with rectangular heat-resisting glass jar. Size over all,  $3\frac{3}{8} \times 6 \times 1$  inches. Inside dimensions of jar only,  $2\frac{7}{8} \times 5\frac{1}{4} \times 9$  inches.

Adapted for intercommunicating telephone systems, talking and ringing circuits for way station telephones in railway train dispatching systems, stationary gas or gasoline motors, burglar alarms, fire alarms, electric clock systems, small motors, time stamps, mine signal systems, etc.

Use five cells for stationary gas or gasoline motors having make and break ignition and eight cells for jump spark.

Cover is without gasket and is recommended for stationary work only.

Trade No.	Type	Description	Price Each
79991	S-202	Complete cell	\$3.00
79992	S-200	Complete renewal	1.50
<b>Renewal Parts</b>			
075922	S-200	Element, assembled	1.35
075923	200	Can caustic soda	.24
075924	200	Bottle special battery oil	.09

## TYPE S-206

Capacity, 200 Ampere Hours

With porcelain jar and hollow rubber gasket ring. Size over all,  $5\frac{3}{4} \times 9$  inches. Inside dimensions of jar only,  $5 \times 7\frac{1}{2}$  inches.

Adapted for motor boats running on salt water. Use five cells for single cylinder make and break engines; six cells for multiple cylinder, high speed make and break engines; eight cells for jump spark. Cover is fitted with hollow rubber gasket to prevent splashing. Type S-206 supersedes old Type VP cell.

075920	S-206	Complete cell	4.00
075921	S-200	Complete renewal	1.50
<b>Renewal Parts</b>			
075922	S-200	Element, assembled	1.35
075923	200	Can caustic soda	.24
075924	200	Bottle special battery oil	.09

## TYPE S-208

Capacity, 200 Ampere Hours

With porcelain jar. Size over all,  $5\frac{3}{4} \times 9$  inches. Inside dimensions of jar only,  $5 \times 7\frac{1}{2}$  inches.

Adapted for stationary gas or gasoline engines, small motors, burglar alarms, bell systems, program and self-winding clocks, annunciators, electric time stamps, mine signals, intercommunicating telephone systems, etc. Use five cells for stationary engines having make and break ignition, eight cells for stationary engines having jump spark ignition. Cells have flat cover, without gasket, and are recommended for stationary work only.

Type S-208 supersedes old Type Q cell.

Types S-206 and S-208 are recommended in preference to the old Types VP and Q respectively, for all purposes. Although the jars are the same size as those used with the old types, the later types have one third greater ampere hour capacity and are correspondingly more efficient.

075926	S-208	Complete cell	3.75
075921	S-200	Complete renewal	1.50
<b>Renewal Parts</b>			
075922	S-200	Element, assembled	1.35
075923	200	Can caustic soda	.24
075924	200	Bottle special battery oil	.09

## TRAYS FOR TYPES S-220 AND S-252 CELLS

Trays are of hard wood thoroughly impregnated. They are provided with handles and the sides are cut away for easy inspection of the elements. Types S-202 and S-252 cells in these trays are attractive and occupy less space than other 200-ampere-hour cells.

Trade No.	Type	For No. of Cells	Size Over All Inches	Price Each
79981	2022	2	$6\frac{1}{2} \times 8 \times 11\frac{1}{2}$	\$3.25
79982	2023	3	$6\frac{1}{2} \times 12 \times 11\frac{1}{2}$	3.50
79983	2024	4	$6\frac{1}{2} \times 15\frac{1}{2} \times 11\frac{1}{2}$	4.00
79984	2025	5	$6\frac{1}{2} \times 19\frac{1}{4} \times 11\frac{1}{2}$	4.50
79985	2026	6	$6\frac{1}{2} \times 23 \times 11\frac{1}{2}$	4.75



## EDISON PRIMARY BATTERIES

### TYPE S-252

#### Capacity, 250 Ampere Hours

With rectangular heat-resisting glass jar. Size over all,  $3\frac{3}{8} \times 6 \times 12$  inches. Inside dimensions of jar only,  $2\frac{7}{8} \times 5\frac{1}{4} \times 10$  inches.

Type S-252 cells are for use where they will not be exposed to low temperature, and for this service are the most desirable of the 250 ampere-hour types, because of the small space occupied and the low first cost. They are designed for stationary work, but when used in trays are semi-portable.

Type S-252 cells are particularly adapted for fire alarm service. They meet various state and municipal requirements for industrial fire alarm systems, for which purpose they are in general use.



Type S-252

Trade No.	Type	Description	Price Each
79972	S-252	Complete cell	\$3.85
79973	S-250	Complete renewal	1.70

#### Renewal Parts

075916	S-250	Element, assembled	1.55
075917	250	Can caustic soda	.27
075918	250	Bottle special battery oil	.09

Trays for Type S-252 cells are listed on another page.

### TYPE S-305

#### Capacity, 300 Ampere Hours

With rectangular heat-resisting glass jar. Size over all,  $6\frac{3}{4} \times 10\frac{1}{4}$  inches. Inside dimensions of jar only,  $6 \times 8$  inches.

Adapted for stationary gas or gasoline engines, burglar alarms, bell systems, program and self-winding clocks, auxiliary and industrial fire alarm systems, etc.

Type S-305 cells are recommended for industrial and private fire alarm systems, auxiliary fire alarms, electric time and program clocks; also for telephones, including intercommunicating telephones, private branch exchanges, switchboards, railway telephone train dispatching at busy way stations, and similar service.



Type S-305

075914	S-305	Complete cell, with heat-resisting glass jar	4.00
075915	S-300	Complete renewal	1.90

#### Renewal Parts

206858	S-300	Element, assembled	1.75
206859	300	Can caustic soda	.30
206860	300	Bottle special battery oil	.09

### TYPE M-401

#### Capacity, 400 Ampere Hours

With rectangular heat-resisting glass jar. Size over all,  $6\frac{3}{4} \times 12\frac{1}{2}$  inches. Inside dimensions of jar only,  $6 \times 10\frac{1}{2}$  inches.

Adapted for railway signals, railway track circuits, battery motors, train dispatchers' telephone talking circuits, intercommunicating telephone circuits, telephone pole changers, telegraph sounder and main line circuits, fire alarms, burglar alarms, program and self-winding clocks, etc. These cells in heat-resisting glass jars will give better service than when used with porcelain jars, especially when the cell is to be subjected to low temperatures.



Type M-401

075903	M-401	Complete cell, with heat-resisting glass jar	4.50
075904	M-400	Complete renewal	2.15

#### Renewal Parts

075905	M-400	Element, assembled	1.90
075906	400	Can caustic soda	.36
075907	400	Bottle special battery oil	.09

### TYPE M-404

#### Capacity, 400 Ampere Hours

With barrel shaped heat-resisting glass jar. Size over all,  $7 \times 11\frac{1}{2}$  inches.

Type M-404 cells are suitable for all purposes for which Type M-401 is recommended. The jars have greater mechanical strength than glass jars with straight sides.

Types M-401 and M-404 conform to the specifications of the Railway Signal Association. They are better adapted for low temperature conditions than are the 500-ampere-hour types, but Type M-402 cells are better adapted for low temperatures than any other 400-ampere-hour type or the 500-ampere-hour types.



Type M-404

075911	M-404	Complete cell	4.50
075904	M-400	Complete renewal	2.15

#### Renewal Parts

075905	M-400	Element, assembled	1.90
075906	400	Can caustic soda	.36
075907	400	Bottle special battery oil	.09



## EDISON PRIMARY BATTERIES



Type M-402



Type S-501



Type S-504



Type S-502

## TYPE M-402

## Capacity, 400 Ampere Hours

With rectangular heat-resisting glass jar. Size over all,  $5\frac{3}{8} \times 6\frac{3}{8} \times 12\frac{1}{2}$  inches. Inside dimensions of jar only,  $5 \times 6 \times 10$  inches.

Adapted for railway signal work, including track circuits, crossing bell and lighting; also for railway train dispatchers' telephone talking and ringing circuits, supervisory lamps, private branch exchanges, telephone switchboards, intercommunicating telephones, telegraph sounder and main line circuits, fire alarm systems, burglar alarms, electric clocks, battery motors etc.

Type 402 Jars and Covers are the same as those for Type 502.

Type M-402 Cells are the most convenient of any of the 400-ampere hour types because of the small space occupied. They are especially recommended for railway signal work, where the cells are housed in signal battery cases or for other outdoor work. Where exposed to low temperature, the Type M-402 Cells will give better service than any other 400 or 500-ampere hour types, because the volume and density of the solution are so proportioned to the ampere-hour capacity of the elements as to provide the best combination to withstand the effect of the cold.

Trade No.	Type	Description	Price Each
57457	M-402	Complete cell	\$4.50
075904	M-400	Complete renewal	2.15
<b>Renewal Parts</b>			
075905	M-400	Element, assembled	1.90
075906	400	Can caustic soda	.36
075907	400	Bottle special battery oil	.09

## TYPE S-501

## Capacity, 500 Ampere Hours

With cylindrical heat-resisting glass jar. Size over all,  $6\frac{3}{4} \times 12\frac{1}{2}$  inches. Inside dimensions of jar only,  $6 \times 10\frac{1}{2}$  inches.

Adapted for railway signals, railway track circuits, low voltage remote control switches, battery motors, telephone train dispatchers' talking circuit, crossing bells, private branch exchange telephone switchboards, telephone pole changers, ringing sets, telegraph local, main line and sounder circuits, intercommunicating telephone systems, fire alarm systems, bungalow camp lighting, electro-plating, wireless telegraph.

57458	S-501	Complete cell	4.50
57459	S-500	Complete renewal	2.15
<b>Renewal Parts</b>			
57460	S-500	Element, assembled	1.90
57461	500	Can caustic soda	.42
57462	500	Bottle special battery oil	.09

## TYPE S-504

## Capacity, 500 Ampere Hours

With barrel shaped heat-resisting glass jar. Size over all,  $7 \times 11\frac{1}{2}$  inches.

Type S-504 Cells are suitable for all of the purposes for which Type S-501 are recommended. The jars have a greater mechanical strength than jars with straight sides. Where cells are to be subjected to low temperatures, Types M-401, M-402 and M-404, with glass jars, are recommended in preference to Types S-501, S-502 and S-504, respectively. Types S-501 and S-504 conform to the specifications of the Railway Signal Association but have a greater capacity than is called for in these specifications.

57463	S-504	Complete cell	4.50
57459	S-500	Complete renewal	2.15

For separate renewal parts see Type S-501 above.

## TYPE S-502

## Capacity, 500 Ampere Hours

With rectangular heat-resisting glass jars. Size over all,  $5\frac{3}{8} \times 6\frac{3}{8} \times 12\frac{1}{2}$  inches. Inside dimensions of jar only,  $5 \times 6 \times 10$  inches.

Type S-502 Cells are suitable for all purposes for which Type S-501 are recommended. Type S-502, as well as Type M-402, is used extensively for railway signal operation, but Type M-402 Cells are recommended in preference to Type S-502 Cells when exposed to low temperatures.

57464	S-502	Complete cell	4.50
57459	S-500	Complete renewal	2.15

For separate renewal parts, see Type S-501 above.



## EDISON PRIMARY BATTERIES

### SUMMARY OF PRICES

#### Complete Batteries and Renewals

	S202 Glass	S206 Porc.	Type S207 Steel	S208 Porc.	S252 Glass
Capacity, ampere hours	200	200	200	200	250
Complete cell	\$3 00	\$4 00	\$4 50	\$3 75	\$3 85
Complete renewal	1 50	1 50	1 50	1 50	1 50

#### Renewal Parts

Zinc-oxide, assembled	1 35	1 35	1 35	1 35	1 55
One can caustic soda	24	24	24	24	27
One bottle special battery oil	09	09	09	09	09

#### Permanent Parts

Porcelain jar, round		1 75		1 75	
Heat-resisting jar, rectangular	1 75				2 00
Enameled steel jar, round			2 25		
Porcelain cover	45	45	45	40	45
Terminal nuts and washers, per cell	25	25	25	25	25
Rubber gasket		25	25		

### SUMMARY OF PRICES

#### Complete Batteries and Renewals

	S305 Glass	M401 Glass	Type M402 Glass	M403 Glass	M404 Glass
Capacity, ampere hours	300	400	400	400	400
Complete cell	\$4 00	\$4 50	\$4 50	\$4 50	\$4 50
Complete renewal	1 90	2 15	2 15	2 15	2 15

#### Renewal Parts

Zinc-oxide, assembled	1 75	1 90	1 90	1 90	1 90
One can caustic soda	30	36	36	36	36
One bottle special battery oil	09	09	09	09	09

#### Permanent Parts

Heat-resisting glass jar, round	1 90	2 10		2 00	
Heat-resisting glass jar, rectangular			2 10		2 10
IR glass, barrel shape					55
Porcelain cover	55	55	45	60	25
Terminal nuts and washers, per cell	25	25	25	25	

### SUMMARY OF PRICES

#### Complete Batteries and Renewals

	S501 Glass	S502 Glass	Type S504 Glass	S505 Glass	M1002 Glass
Capacity, ampere hours	500	500	500	500	1000
Complete cell	\$4 50	\$4 50	\$4 50	\$4 60	\$8 50
Complete renewal	1 90	1 90	1 90	1 90	4 25

#### Renewal Parts

Zinc-oxide, assembled	1 90	1 90	1 90	1 90	3 50
One can caustic soda	42	42	42	42	85
One bottle special battery oil	09	09	09	09	15

#### Permanent Parts

Heat-resisting glass jar, round	2 10			2 10	
IR glass jar, rectangular		2 10			4 80
IR glass jar, barrel shape			2 10		
Porcelain cover	55	45	55	65	55
Terminal nuts and washers, per cell	25	25	25	25	25

#### Miscellaneous Separate Parts

Large wing nuts, each 10 cents. Nuts, other sizes, each, 5 cents.

Brass washers, each, 5 cents. Double connectors, each, 15 cents.

Hexagon jamb nuts, each, 5 cents.

NOTE.—The prefix "S" before a cell, renewal or element number means that an element with one copper-oxide plate is furnished. The letter "M" indicates an element with two copper-oxide plates.

The list prices of Type M501, M502, M504, and M505 cells are 20 cents higher and of renewals and elements 10 cents higher than for corresponding material with "S" type elements. The "M" type element is designed for heavy service.



## EDISON PRIMARY BATTERIES



Complete Edison Renewal

## TABLE OF CORRESPONDING OLD AND NEW TYPES

The following table shows obsolete Edison and Gladstone types, corresponding models in improved types and material required to bring old cells up to date.

## Edison Types

Old Type Designation	Cap. Amp. Hours	Kind of Jar	Inside Dimens. of Jar, Inches	Corresponding Cell New Type	Renewals	New Permanent Parts Required to Convert Old Cells into New Types
BB	100	Porc.	4 $\frac{1}{4}$ x 7 $\frac{1}{4}$	None	None	See Note A.
Z	100	Steel	4 $\frac{1}{4}$ x 6	None	None	See Note B.
Q	150	Porc.	5 x 7	S-208	S-200	Type 208 cover and cover nuts.
V	150	Steel	5 x 7	S-207	S-200	Type 207 wing nuts and washers.
V-P	150	Porc.	5 x 7	S-206	S-200	Type 206 wing nuts and washers.
RR	300	Porc.	6 $\frac{5}{8}$ x 8 $\frac{3}{4}$	S-403	M-400	Type 403 cover and cover nuts.
AA	300	Steel	6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	None	M-400	Type 403 wing nuts and washers.
AA-P	300	Porc.	6 $\frac{5}{8}$ x 8 $\frac{3}{4}$	None	M-400	Type 403 wing nuts and washers.
S	300	Porc.	5 $\frac{1}{8}$ x 10 $\frac{1}{2}$	None	S-309	Type 309 cover and cover nuts.
SS	350	Porc.	6 x 10 $\frac{1}{2}$	M-401	M-400	Type 401 cover and cover nuts.
W	600	Porc.	7 x 13 $\frac{1}{2}$	None	None	See Note C.

## Gladstone Types

G-10	100	Porc.	4 $\frac{1}{4}$ x 7 $\frac{1}{4}$	None	None	See Note A.
G-80	100	Steel	4 $\frac{1}{4}$ x 6	None	None	See Note B.
G-20	150	Porc.	5 x 7	S-208	S-200	Type 208 cover and cover nuts.
G-30	150	Steel	5 x 7	S-207	S-200	Type 207 wing nuts and washers.
G-36	150	Porc.	5 x 7	S-206	S-200	Type 206 wing nuts and washers.
G-50	300	Porc.	6 $\frac{5}{8}$ x 8 $\frac{3}{4}$	S-403	M-400	Type 403 cover and cover nuts.
G-90	300	Steel	6 $\frac{1}{2}$ x 8 $\frac{1}{2}$	None	M-400	Type 403 wing nuts and washers.
G-96	300	Porc.	6 $\frac{5}{8}$ x 8 $\frac{3}{4}$	None	M-400	Type 403 wing nuts and washers.
G-56	300	Porc.	5 $\frac{1}{8}$ x 10 $\frac{1}{2}$	None	S-309	Type 309 cover and cover nuts.
G-60	350	Porc.	6 x 10 $\frac{1}{2}$	M-401	M-400	Type 401 cover and cover nuts.
G-70	600	Porc.	7 x 13 $\frac{1}{2}$	None	None	See Note C.

NOTE A.—Type 202 cell is recommended in place of types BB and G-10.

NOTE B.—Type 207 cell is recommended in place of types Z and G-80.

NOTE C.—Types 502 and 1002 cells are recommended in place of types W and G-70.

## PARTS OF CELLS OF DIFFERENT TYPES WHICH ARE IDENTICAL

Renewals are the same for:

- All M-500-ampere hour types
- All S-500-ampere-hour types
- All M-400 ampere-hour types
- All S-200 ampere-hour types

Porcelain jars are the same for:

- Types 206 and 208

Heat-resisting glass jars are the same for:

- Types 401 and 501
- Types 402 and 502
- Types 404 and 504

Porcelain covers are the same for:

- Types 202 and 252
- Types 206 and 207
- Types 305, 401, 404, 501 and 504
- Types 402 and 502

Cans of caustic soda are the same for:

- Types 202, 206, 207 and 208
- All 400 ampere-hour types
- All 500 ampere-hour types



# BATTERIES AND SUPPLIES



No. 012108



No. 012116



No. 012137



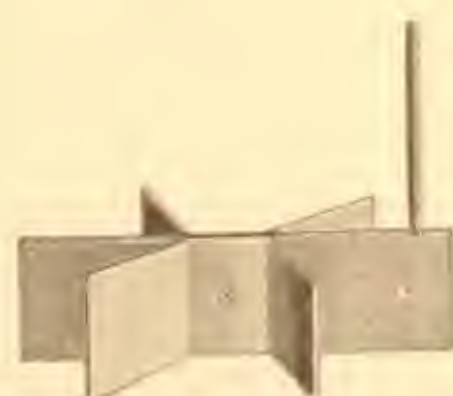
No. 012135



No. 012142



Nos. 012149 and 012151



No. 012154



Polarity Indicator

## CARBON CYLINDER BATTERIES

Trade No.	Description	Price Each
012108	Battery complete	\$1 50
012109	Carbon cylinder	80
012110	Glass jar	32
012111	Zinc	20

## No. 2 SAMSON BATTERIES

Trade No.	Description	Std. Pkg.	Price Each
012116	Battery complete	50	\$2 00
012118	Carbon vase	50	1 15
012119	Rubber cover	100	25
012120	Cylindrical zinc	100	55
012122	Glass jar	50	40

## No. 3 SAMSON BATTERIES

012123	Battery complete	25	2 90
012124	Carbon vase	50	1 40
012125	Cylindrical zinc only	50	65
012126	Jar only	25	65
012127	Rubber cover	25	40

## GRAVITY BATTERIES

Trade No.	Description	Price Each
012137	Cell complete, less blue vitriol, 6x8 in.	\$2 80
012138	Glass jar	1 20
012139	Zinc	1 30
012140	Copper	30

## PENCIL ZINCS

Trade No.	Std. No.	Description	Price Each
012135	14B	Copper thumbscrew connection	\$0 20
91901		Wing nut connection	20

Pencil zincs are  $\frac{3}{8} \times 6 \frac{1}{2}$  inches.

## CROWFOOT ZINCS

Trade No.	Std. No.	Size of Jar Inches	Wt. Lbs.	Price Each
012142	1	6x8	3	\$1 30
012143	2	6x8	2 $\frac{3}{4}$	1 20
012144	3	6x8	3 $\frac{1}{2}$	1 60
012145	4	5x7	1 $\frac{3}{4}$	1 00

## ROUND ZINCS

Trade No.	Std. No.	Style	Size of Jar Inches	Wt. Lbs.	Price Each
012146	5	Wire connection	6x8	4	\$2 50
012147	6	Thumbscrew connection	6x8	4	2 50
012148	7	Thumbscrew connection	6x8	3	2 25
012149	8	Wire connection	6x8	3	2 25
012150	66	Thumb nut connection	6x8	4	2 50
012151	77	Thumb nut connection	6x8	3	2 25

## COPPERS

012154	16	2x6 inches	6x8	30
012155	16 $\frac{1}{2}$	2x5 inches	5x7	20

Made up of brush copper, No. 32 B. & S. gauge, 13 inches of No. 14 rubber covered wire for connections.

## IMPORTED SAL AMMONIAC

Trade No.	Description	Price
012189	Packed in barrels, per pound	....
59101	Packed in strong pasteboard boxes containing 4 ounces each, per box	....

## BLUE VITRIOL

012190	Packed in barrel, per pound	....
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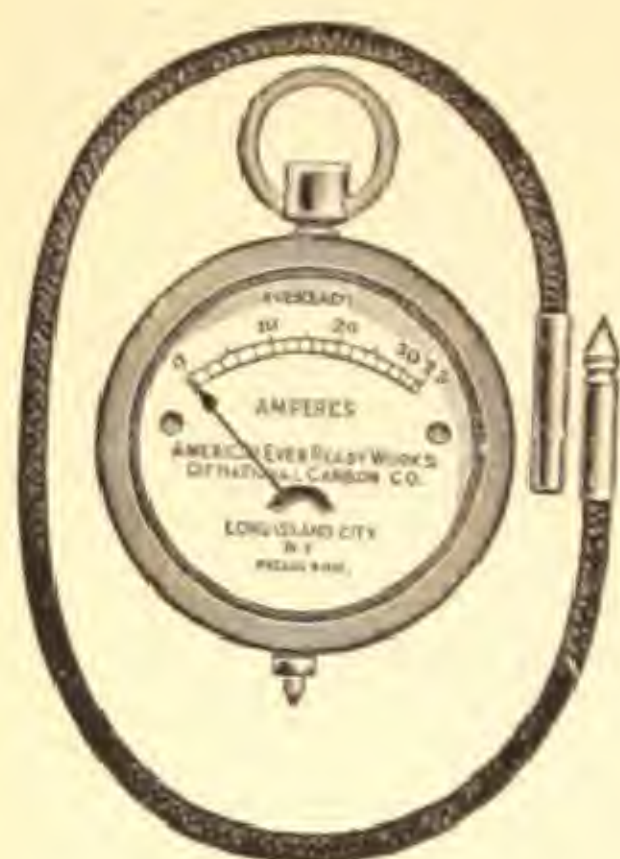
## POLARITY INDICATORS AND GROUND DETECTORS

Liquid adjacent to negative pole turns red when indicator is placed in circuit.

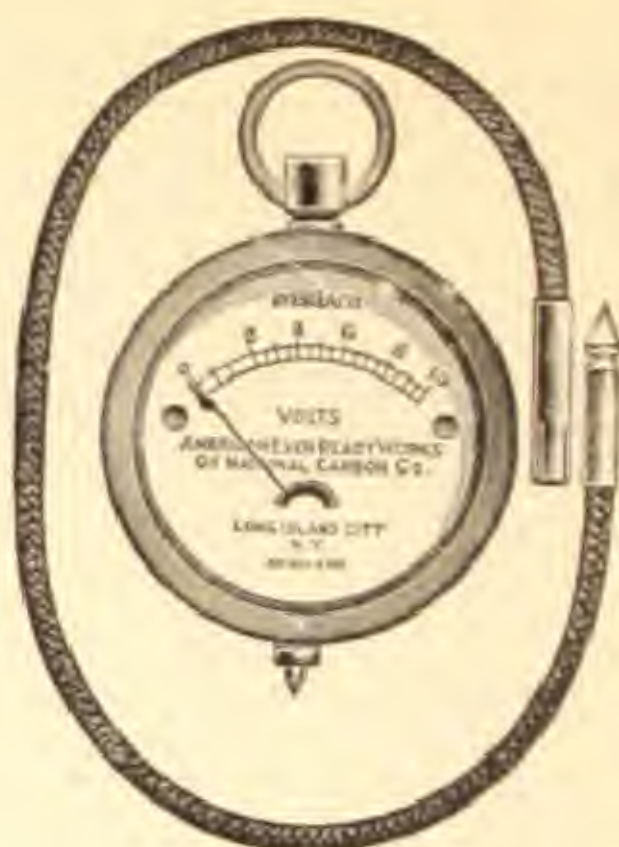
Trade No.	Mfrs. No.	Description	Price Each
065605	4643	For battery work	\$2 25
065606	4644	For 50 to 600 volts, D. C.	2 25



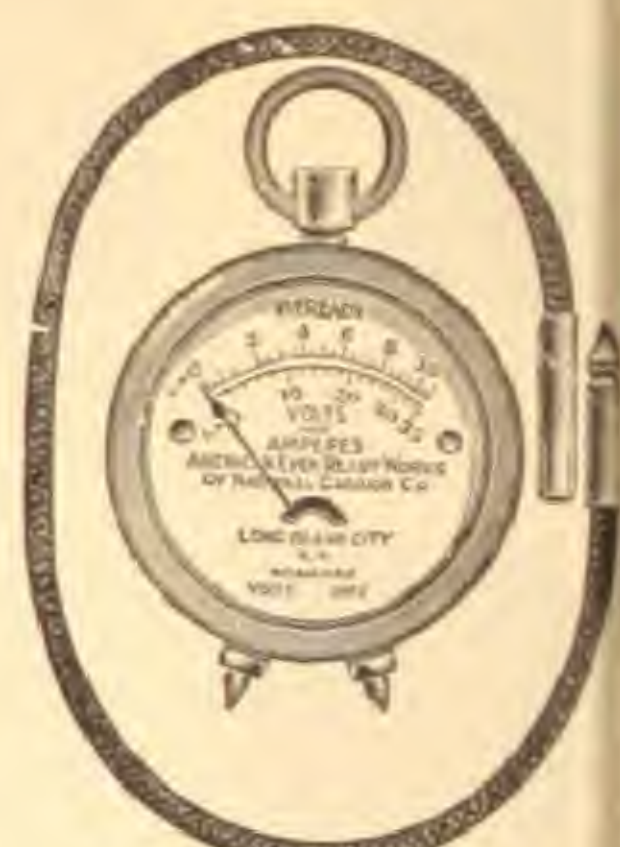
## EVEREADY BATTERY TESTING METERS



Model No. 1002



Model No. 1005



Model No. 1003

## POCKET METERS

These meters are standard in nickel finish. Dials are of metal etched in black raised figures with dull silver background. Each meter is supplied with a detachable 10-inch lead fitted with proper terminals.

As these meters do not indicate polarity, readings may be taken irrespective of battery terminals. The pointer will give proper scale deflection regardless of whether meter terminal is placed on carbon or zinc binding post and vice versa.

Do not subject cell to continued testing when using ammeter, as the procedure will necessarily reduce the life of the cell, due to the fact that ammeters, having a very low resistance, practically short circuit the cell. A momentary reading should be sufficient with a meter which is as dead beat magnet is employed.

In using the voltammeter carefully note which meter post is used. They are properly marked volts (left), amperes (right).

Eveready Pocket Meters have built their own reputation for ruggedness and all-round year-in and year-out serviceability. They are very simple in construction, having very few parts; in fact, so few as to eliminate troubles common to most meters. There is absolutely nothing about them to get out of mechanical order.

Every individual who uses dry cell batteries should own one of these instruments, particularly owners of automobiles, motor boats, gas tractors, stationary engines, etc.

## Ammeters for Testing Dry Cells

Trade No.	Model No.	Range Amperes	Volts	Diameter Inches	Price Each
194767	1002	0-35	1.5	2	\$1.30

## Voltmeters for Testing Storage Batteries

194768	1005	0-10	2	1.40
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## Voltammeters for Testing Dry Cells and Storage Batteries

194769	1003	0-35	0-11	2	1.70
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We guarantee these pocket meters to give satisfactory service when used with proper care for the purpose for which they are intended.

Packed in unit cartons containing ten instruments of one type.

NOTE.—Use voltmeter or voltmeter terminals of voltammeter only when testing storage batteries.



# BENJAMIN INDUSTRIAL SIGNALS

NATIONAL ELECTRICAL CODE STANDARD



No. 8311

## TELECODE RELAYS

The telecode relay may be equipped for operation on telephone circuits, utilizing either A.C., or D.C., as their ringing energy. If for operation on standard telephone circuits, the relay is wound by resistance, as is standard practice in the telephone industry and in ordering kindly specify the resistance of the telephone bells on the telephone line where the relay is to be installed. If the relay is to be used in conjunction with an intercommunicating telephone system, specify the kind and voltage of the ringing current. The carrying capacity at the contacts of this relay are 2 Benjamin Industrial Signals.



No. 8935

Trade No.	Mfrs. No.	Description	Price Each
148584	8311	Complete with pressed steel cover . . . .	\$13.50
148585	8312	Weatherproof . . . . .	15.00

## DIRECT CURRENT BUZZERS

Benjamin Buzzers are effective signals of distinctive tone pitch, for use where a great volume of sounds is not necessary. Mechanism is vibrator type, with coin silver contacts.

General Service Buzzer, No. 8935, has a water-tight brass casing, tapped for 1/2-inch pipe connection. Three lugs are provided for attaching to wall. May be wound for any voltage up to and including 120 D.C., when specified, at no advance in list price.

Heavy Duty Buzzer, No. 8936, with pressed steel cover, is for open wiring. May be wound for voltages up to and including 260 volts, D.C., when specified, at no advance in price.



No. 8936

Trade No.	Mfrs. No.	Type	Connection	Standard Voltages	Std. Pkg.	Price Each
148588	8935	General service	1/2-in. conduit	120D.C.	10	\$13.50
148589	8936	Heavy duty	Open wiring	110D.C.	10	9.00



No. 8299M

## ALTERNATING CURRENT BUZZERS

Benjamin Alternating Current Buzzers have vibrator type mechanism, which needs no adjustments and will operate successfully under all commercial conditions on multiple or series circuits.

No. 8299M is provided with heavy cast brass cover tapped for 1/2-inch pipe connection. Will withstand the action of sea atmosphere.

Nos. 8299A and 8297A have pressed steel cover and mounting brackets, top and bottom. No. 8299A is weatherproof, with sealed insulated wire leads through back. No. 8297A has insulated side opening for open wiring.



No. 8297A

Trade No.	Mfrs. No.	Type	Connection	Standard Voltage	Std. Pkg.	Price Each
148578	8299M	Weatherproof	1/2-in. conduit	110A.C.	10	\$13.50
148576	8299A	Weatherproof	Open wiring	110A.C.	10	9.00
148582	8297A	Non-weatherproof	Open wiring	110A.C.	10	6.75

All alternating current signals may be wound for voltages as high as 260 A.C. at no advance in list price.



## BENJAMIN INDUSTRIAL SIGNALS

## NATIONAL ELECTRICAL CODE STANDARD

These signals have a peculiar penetrating tone pitch which makes them a very effective form of audible signal. The following is a partial list of places where they should be used.

Factory signals; superintendents' and foremen's calls. Signaling the opening and closing hours of labor. Tell-tale of warning; for water tank levels, steam or gas pressures, sprinkle systems, etc. Telephone signals in engine room. Fire alarms. Audible signals in connection with police systems. Burglar alarms. For central stations. Traffic warnings for street crossings. Railroad crossing signals. Mine signals. Street car signals. Marine signals.

## DIRECT CURRENT SIGNALS

Designed for use on multiple arrangement only. They may be employed successfully on circuits carrying a voltage as high as 250 volts. When 6 or 8 signals are to be used on one system no lower voltage than 30 volts direct current should be used.

The sounding mechanism is of the vibrator type with make-and-break contacts of coin silver having large contact area. A special adjusting means, accessible through the projector, is provided for increasing or decreasing the volume of tone and governing the tone pitch.



No. 8326H



No. 8326A



No. 8354A



No. 8152S



No. 8355A



No. 8346H

## No. 8326H

Signal No. 8326H is weatherproof, with cast back cover, tapped for  $\frac{1}{2}$ -inch pipe connection and bell type, one-piece drawn brass projector. Contacts can be adjusted from outside of front cover. Black finish.

Trade No.	Mfrs. No.	Type of Projector	Connection	Voltage	Price Each
133493	8326H	Brass bell	$\frac{1}{2}$ -in. pipe	*	\$18.00

## Nos. 8326A and 8354A

Signal No. 8326A is same as No. 8326H but non-weatherproof for interior use only. Pressed steel back cover with insulated wire openings. No. 8354A is the same but has a 9-inch conical projector for confining the volume of tone straight ahead. Black finish.

148570	8326A	Brass bell	Open wiring	*	15.00
148571	8354A	9-inch conical bell	Open wiring	*	14.50

Nos. 8326H and 8326A will be furnished with special 14-inch conical projector at \$1.50 advance in list price.

## ALTERNATING CURRENT SIGNALS

A. C. signals may be operated on multiple or series circuits or in connection with vibrator or single-stroke gongs or other electrical signal equipment. Weatherproof casings are recommended when signal is to be used outside.

The sounding mechanism is of the vibrator type. The vibrations are the result of the alternating current cycles and no make-and-break contacts are required.

## Nos. 8346H and 8152S

Signals Nos. 8346H and 8152S are weatherproof types. No. 8346H has cast back cover tapped for  $\frac{1}{2}$ -inch pipe connection and bell type, one-piece drawn brass projector. No. 8152S, with pressed steel back cover, has sealed, insulated wire leads entering front cover. Black finish.

Trade No.	Mfrs. No.	Type of Projector	Connection	Voltage	Price Each
133497	8346H	Brass bell	$\frac{1}{2}$ -in. conduit	*	\$15.00
133471	8152S	Brass bell	Open wiring	*	15.00

## Nos. 8355A and 8152L

Signals Nos. 8355A and 8152L are non-weatherproof types for interior use. No. 8355A is same as 8152S with insulated wire entrance for open wiring.

133496	8355A	Brass bell	Open wiring	*	10.95
133469	8152L	9-in. conical	Open wiring	*	10.50

\*Standard voltage is 110 A. C. Any voltage from 6 to 250 A. C. may be specified without change in price.

Nos. 8346H and 8355A will be furnished with special 14-inch conical projector at \$1.50 advance in list price.



## BENJAMIN INDUSTRIAL SIGNALS

The sounding mechanism for the double projector signal is of the vibrator type, furnished for direct or alternating current circuits and is similar in construction and current capacities to the corresponding single projector signals.

### WEATHERPROOF DOUBLE PROJECTOR SIGNALS

Signal has cast iron back cover or body, with two mounting lugs, is tapped at side for  $\frac{1}{2}$ -inch pipe connection. Pressed steel front cover is welded to two one-piece drawn brass sound projectors by means of cast iron T fitting. Rubber gasket makes mechanism weatherproof. Finish is black enamel. Red enamel finish will be furnished at \$1.50 advance in list price.

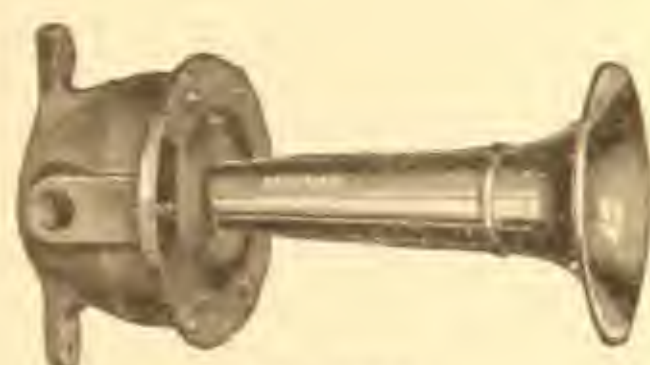


No. 8788

Trade No.	Mfrs. No.	Standard Voltages	Std. Pkg.	Price Each
196062	8788	*D.C.	10	\$19.50
196063	8790	*A.C.	10	15.45

### NON-WEATHERPROOF DOUBLE PROJECTOR SIGNALS

Signal has pressed steel back cover with side opening having approved insulated wire entrance accommodating open wiring. Pressed steel front cover, with mounting bracket attached, is welded to two one-piece drawn brass projectors by means of cast T fitting. Wire connections easily accessible by loosening two screws and removing back. Finish is black enamel. Red enamel finish will be furnished at \$1.50 advance in price.



No. 8360

Trade No.	Mfrs. No.	Standard Voltages	Std. Pkg.	Price Each
196064	8784	*D.C.	10	\$19.50
196065	8785	*A.C.	10	15.45

### SIGNALS FOR FIRE ALARMS

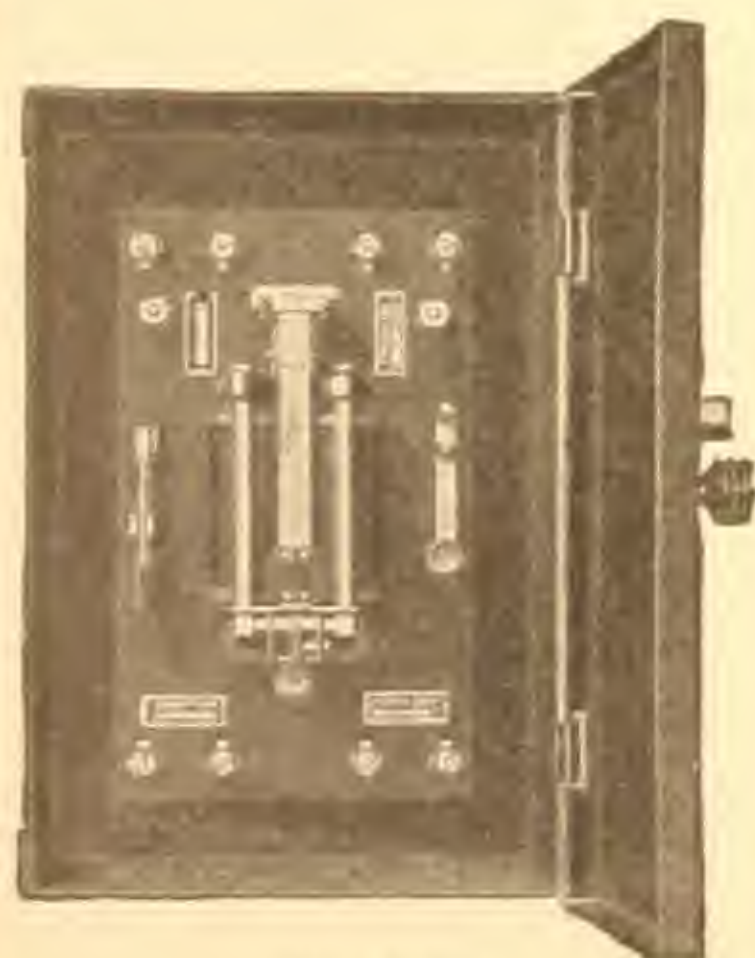
The sounding mechanism for these signals is of the vibrator type for both D.C. and A.C. circuits. The 110-volt signals may be used for open circuit work where a time limit fuse or switch is inserted in the circuit. The use of combined 8-volt and 14-volt signals on one circuit are permitted.

Tapped for  $\frac{1}{2}$ -inch conduit. Signal is weatherproof. Finish is red enamel.

Trade No.	Mfrs. No.	Standard Voltages	Std. Pkg.	Price Each
196066	8360	*D.C.	10	\$19.50
196067	8361	*A.C.	10	16.50
196068	8864	8 A.C.	10	19.50
196069	8865	14 A.C.	10	19.50
196070	8866	110 A.C.	10	19.50

### MASTER RELAY PANELS

These panels are arranged for use with industrial signals as a circuit closing means, controlling the high voltage current to the signals. The relay is a carbon contact type, arranged with primary opening switch and test button with four sets of binding posts. Mounted on a slate base, encased in a sheet steel box equipped with lock.



No. 8301C

Trade No.	Mfrs. No.	Type	Magnet Winding	Price Each
148586	8301C	D.C. only	4, or 6 volts	On Request
148587	8301D	D.C. only	Special	Request

\*Standard voltage is 110 volts, D.C. or A.C., but any voltage from 6 to 250 D.C. or A.C., inclusive, may be specified, without change in price.

Specify voltage when ordering.



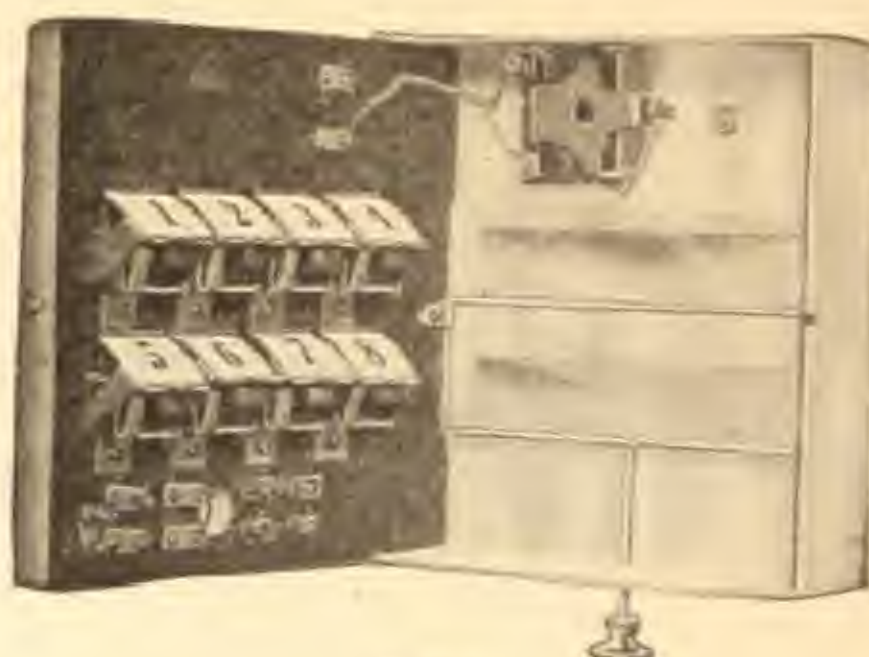
## EDWARDS GRAVITY DROP ANNUNCIATORS

## SCHEDULE E

## SAN-FER-ANN ANNUNCIATORS



Closed



Open

The San-Fer-Ann Annunciator has been designed to meet the demand for a form of construction that is normally sanitary and can be easily kept in a sanitary condition; and also for reliability of operation and service.

The special features which are predominant are the permanently hinged backboard, attached to which are the connectors and mechanism, in full view and ready access for quick and easy wiring, and complete installing of the annunciator.

The Ferro-Steel from which the case is made.

The attractive and sanitary whiteness of the enamel finish of the case.

The keyed slot for locking the backboard and case when the case is closed.

The strength of the backboard and its non-warping construction.

The twin-gong, nicked brass bell equipment on the front of the case.

The shallowness of the case, measuring only  $2\frac{1}{4}$  inches from face to back.

The superiority of the drops as compared with types commonly placed in low-priced annunciators.

Rustproof metal has been used throughout. The drops are released by electrical contact only. Vibration or other influences will not cause them to give a false indication.

The bell has double magnets, locked adjustment and a pivoted armature. The operative mechanism for the bells is mounted inside of the case and is connected with the backboard mechanism by a flexible cable so that the bell is always in the circuit whether the case is open or shut, thus greatly facilitating either connecting or testing.

Finished in white enamel with nickel trimmings. All other finishes special.

Trade No.	No. of Drops	ARR. OF DROPS		OUTSIDE DIMENS., INCHES			Std. Pkg.	Price Each
		Across	Down	Width	Height	Depth		
79784	2	2	1	$6\frac{7}{8}$	$4\frac{3}{4}$	$2\frac{1}{8}$	6	\$13.16
79785	3	3	1	$6\frac{7}{8}$	$4\frac{3}{4}$	$2\frac{1}{8}$	6	14.94
79786	4	4	1	$6\frac{7}{8}$	$4\frac{3}{4}$	$2\frac{1}{8}$	10	16.56
79788	6	3	2	$6\frac{7}{8}$	$7\frac{1}{4}$	$2\frac{1}{8}$	10	19.58
79789	8	4	2	$6\frac{7}{8}$	$7\frac{1}{4}$	$2\frac{1}{8}$	8	22.96
79790	10	5	2	$8\frac{3}{8}$	$7\frac{1}{4}$	$2\frac{1}{8}$	5	26.26
79791	12	6	2	$9\frac{1}{8}$	$7\frac{1}{4}$	$2\frac{1}{8}$	5	29.44

13 to 55 drops, add per drop, \$3.02.

56 drops and over, add per drop, \$6.40.

Assortment to make up one standard package, 20.

Dimensions do not include bell or reset rod, for which add  $1\frac{1}{4}$  inches to height for reset rod and 1 inch to depth for bell.



# EDWARDS GRAVITY DROP ANNUNCIATORS

## STANDARD HOUSE TYPES

### SCHEDULE E

#### Dixie No. 81



Dixie No. 81

Trade No.	No. of Drops	ARR. OF DROPS Across Down	OUTSIDE DIMENS., IN. Width	Height	Depth	Price Each
091222	2	2 1	9	9 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	\$9.96
091223	3	3 1	9	9 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	11.58
091224	4	4 1	9	9 <sup>3</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	13.18
091226	6	3 2	9	11 <sup>1</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	16.56
091228	8	4 2	9	11 <sup>1</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	19.58
091229	10	5 2	10 <sup>5</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	22.96
091230	12	6 2	12 <sup>1</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	26.16

13 to 55 drops, add to list per drop, \$2.22.

56 drops and over, add to list per drop, \$2.84.

Assortment to make one standard package, 20.

Furnished in oak only.

### SCHEDULE T

#### No. 125



No. 125

091318	4	4 1	7 <sup>7</sup> / <sub>8</sub>	5 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	23.34
091319	6	3 2	7 <sup>7</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	27.60
091320	8	4 2	7 <sup>7</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	32.50
091321	10	5 2	9 <sup>1</sup> / <sub>2</sub>	7 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	39.72
188819	12	6 2	10 <sup>7</sup> / <sub>8</sub>	7 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	46.96
188820	18	6 3	10 <sup>7</sup> / <sub>8</sub>	9 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	67.98
188821	20	5 4	9 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	75.20

Additional drops per set of two, \$8.26.

## RETURN CALL TYPE

### SCHEDULE T

#### No. 10

For call and return call, either from calling point or annunciator, indicating that signal is understood. Combination push No. 136, or an ordinary push with any regular iron box bell, may be used.



No. 10

Trade No.	No. of Drops	ARR. OF DROPS Across Down	OUTSIDE DIMENS., IN. Width	Height	Depth	Price Each
091286	10	5 2	12 <sup>3</sup> / <sub>8</sub>	17 <sup>1</sup> / <sub>2</sub>	5	\$44.12
091287	12	6 2	13 <sup>3</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>2</sub>	5	54.44
091289	16	6 3	13 <sup>3</sup> / <sub>4</sub>	22	5	70.98
091290	20	7 3	15 <sup>1</sup> / <sub>8</sub>	22	5	88.24
091291	24	6 4	13 <sup>3</sup> / <sub>4</sub>	26 <sup>1</sup> / <sub>2</sub>	5	103.30

Additional drops per set of two, \$13.42.

## SPECIAL FINISHES AND LETTERING

Lettering on glass, stencil charge, \$2.50 net, lettering \$1.00 net.

Standard finish—oak.

Other sizes and finishes, special—information on request.



## EDWARDS GRAVITY DROP ANNUNCIATORS

## SCHEDULE T

## STANDARD ELEVATOR TYPES

## No. 130—Metal Case

Made of sheet steel, perfectly insulated and dustproof. Equipped with the RE-AL Monitor Bell.



No. 130

Trade No.	No. of Drops	Arr. of Drops Across	Down	Width	Height	Depth	Price Each
091515	3	1	3	4	10	3 $\frac{3}{4}$	\$16.72
091516	4	1	4	4	12 $\frac{3}{4}$	3 $\frac{1}{4}$	18.96
091517	5	1	5	4	15 $\frac{1}{2}$	3 $\frac{1}{4}$	20.12
091518	6	1	6	4	18 $\frac{1}{4}$	3 $\frac{1}{4}$	22.44
091519	7	1	7	4	21	3 $\frac{1}{4}$	24.30
091520	8	1	8	5 $\frac{3}{8}$	12 $\frac{3}{4}$	3 $\frac{1}{4}$	26.32
091521	10	2	5	5 $\frac{3}{8}$	15 $\frac{1}{2}$	3 $\frac{1}{4}$	29.92
091522	12	2	6	5 $\frac{3}{8}$	18 $\frac{1}{4}$	3 $\frac{1}{4}$	33.80

Additional drops, add per drop, \$5.28.

FINISHES.—Black Rubberoid. Can also be furnished in imitation wood finishes or ordinary metal finishes. Prices quoted upon application.

## No. 12—Wood Case

091528	3	1	3	4	10 $\frac{1}{2}$	3 $\frac{1}{2}$	13.94
091529	4	1	4	4	13 $\frac{1}{4}$	3 $\frac{1}{2}$	15.74
091530	5	1	5	4	16	3 $\frac{1}{2}$	17.16
091531	6	1	6	4	18 $\frac{3}{4}$	3 $\frac{1}{2}$	18.70
091532	7	1	7	4	21 $\frac{1}{2}$	3 $\frac{1}{2}$	20.26
091533	8	2	4	6	13 $\frac{1}{2}$	3 $\frac{1}{2}$	21.92
091534	10	2	5	6	16	3 $\frac{1}{2}$	24.90
091535	12	2	6	6	18 $\frac{3}{4}$	3 $\frac{1}{2}$	28.12

Additional drops, add per drop, \$4.12.

FINISHES.—Filled, oil-rubbed and varnished oak; other finishes, special.

Equipped with RE-AL Monitor Bell.

Dimensions do not include bell or reset rod.

## FLUSH TYPE

## No. 215—Wood Case

091541	4	4	1	9 $\frac{1}{8}$	6 $\frac{7}{8}$	2 $\frac{1}{8}$	54.18
091542	6	3	2	9 $\frac{1}{8}$	8 $\frac{5}{8}$	2 $\frac{1}{8}$	60.68
091306	8	4	2	9 $\frac{1}{8}$	8 $\frac{5}{8}$	2 $\frac{3}{4}$	66.86
091307	10	5	2	10 $\frac{3}{4}$	8 $\frac{5}{8}$	2 $\frac{1}{8}$	73.48
091308	12	6	2	9 $\frac{1}{8}$	11 $\frac{1}{8}$	2 $\frac{1}{8}$	79.36
091310	18	6	3	12 $\frac{1}{8}$	11 $\frac{1}{8}$	2 $\frac{1}{8}$	94.94
091311	20	5	4	10 $\frac{3}{4}$	13	2 $\frac{1}{8}$	101.02
091312	24	6	4	12 $\frac{1}{8}$	13	2 $\frac{1}{8}$	113.50

Add 3 inches to height and width for trim.

Additional drops per set of two, \$12.90.

Small bell or buzzer supplied inside of case, if ordered.

Larger sizes can be furnished. Prices quoted upon application.

FINISHES, LETTERING, SETBACKS AND LAMP  
SIGNAL ATTACHMENTS

For white enamel finish, add to net price, 2 to 10 drop, \$6.25; 11 to 20 drop, \$8.60; 21 to 50 drop, \$11.75; over 50 drop, \$14.85.

Lettering on glass; stencil charge, \$2.50 net; lettering, \$1.00 net.

Electrical setback, up to 20 drops, add to list, \$11.75; over 20 drops, add to list, \$23.50.

Automatic setback, not furnished.

With electrical setback, add to height of case, 1 $\frac{1}{2}$  inches.

For lamp signal attachment, add to list \$9.50; for special finishes—information upon request.



No. 215



## EDWARDS ANNUNCIATORS

### SCHEDULE T

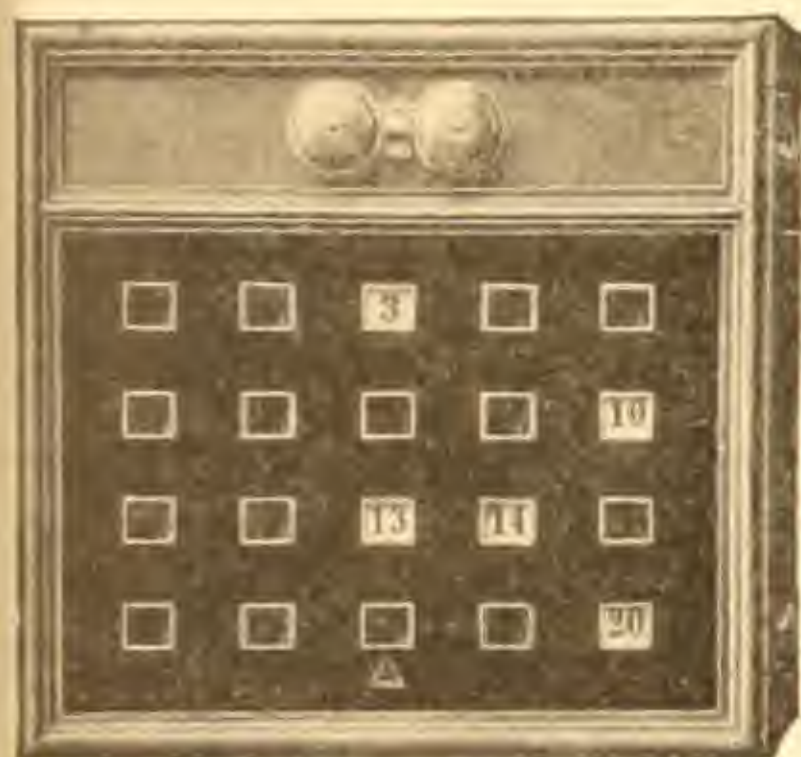
#### SEMAPHORE LOCK GRAVITY DROP TYPES

These styles are used when reliable electrical resetting or remote control types are wanted. All drops and terminals are mounted on a separable backboard to facilitate installation. Dimensions do not include bell, for which add  $\frac{3}{4}$ -inch to the depth.

Unless otherwise specified no push buttons will be supplied with Semaphore Drop Annunciators. If specified, a regular flush button will be mounted in the case without charge.

Complete wiring diagram is furnished on backboard of every Semaphore Drop Annunciator.

#### HOUSE OR OFFICE ANNUNCIATORS



No. 401

					No. 401		No. 407	
No. of Drops	Across	Down	Width	Height	Trade No.	Price Each	Trade No.	Price Each
1	2	2	9 $\frac{3}{8}$	7 $\frac{1}{4}$	169521	\$25.98	169529	\$36.98
6	3	2	9 $\frac{3}{8}$	9 $\frac{1}{2}$	169522	30.60	169530	40.60
8	4	2	9 $\frac{3}{8}$	11 $\frac{3}{4}$	169523	36.28	169531	46.28
10	4	3	11 $\frac{3}{8}$	11 $\frac{3}{4}$	169524	43.82	169532	52.82
12	4	3	11 $\frac{3}{8}$	11 $\frac{3}{4}$	169525	52.16	169533	62.16
14	5	3	11 $\frac{3}{8}$	14 $\frac{1}{2}$	169526	59.80	169534	69.80
16	6	3	11 $\frac{3}{8}$	16 $\frac{1}{4}$	169527	67.64	169535	77.64
18	6	3	11 $\frac{3}{8}$	16 $\frac{1}{4}$	169528	75.50	169536	85.50
20	5	4	13 $\frac{3}{8}$	14	169562	83.54	169565	93.54
22	6	4	13 $\frac{3}{8}$	16 $\frac{1}{4}$	169563	91.66	169566	101.66
24	6	4	13 $\frac{3}{8}$	16 $\frac{1}{4}$	169564	100.00	169567	110.00
Additional drops per set of 2					10	32		18.24

Intermediate sizes not furnished.

FINISHES.—No. 401 wood case—oak, filled, varnished and oil rubbed.

No. 407 metal case—black rubberoid.

#### ELEVATOR ANNUNCIATORS

##### FOR ELECTRICAL RESETTING WITH PUSH BUTTON

					No. 410		No. 411	
No. of Drops	Across	Down	Width	Height	Trade No.	Price Each	Trade No.	Price Each
3	1	3	5	12	169537	29.40	169549	39.40
4	1	4	5	14	169538	32.48	169550	42.48
5	1	5	5	16	169539	35.30	169551	45.30
6	1	6	5	18	169540	38.24	169552	48.24
7	1	7	5	20	169541	41.66	169553	51.65
8	2	4	7 $\frac{3}{8}$	14	169542	45.36	169554	55.35
10	2	5	7 $\frac{3}{8}$	16	169543	54.78	169555	64.78
12	2	6	7 $\frac{3}{8}$	18	169544	65.20	169556	75.00
14	2	7	7 $\frac{3}{8}$	20	169545	74.74	169557	84.74
16	2	8	7 $\frac{3}{8}$	22	169546	84.58	169558	94.58
18	2	9	7 $\frac{3}{8}$	24	169547	94.38	169559	104.38
20	2	10	7 $\frac{3}{8}$	26	169548	104.42	169560	114.42
Additional drops, add per drop					6	45		8.00

FINISHES.—No. 410 wood case—oak, filled, varnished and oil rubbed.

No. 411 metal case—black rubberoid. For imitation wood finishes, add to list 25 per cent.

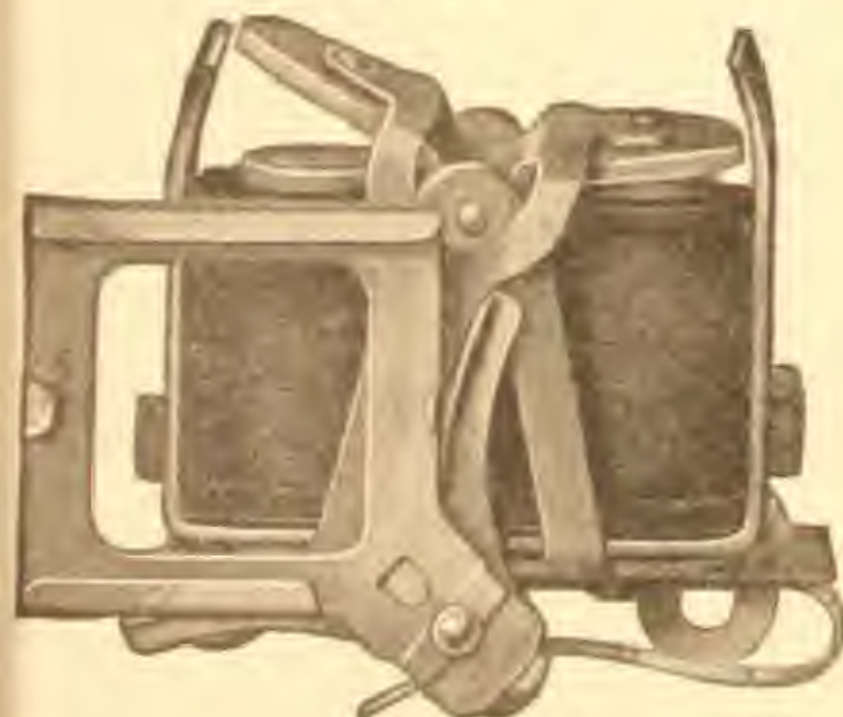
#### SEMAPHORE LOCK GRAVITY DROP

##### No. 400—Used in Above Annunciator

Combines two lock drops in one unit and does away entirely with the use of permanent magnets. This drop is positive and self-locking; action cannot be affected by vibration; is capable of taking care of several times the current necessary for operation.

Only drops that are indicating are in reset circuit; this effects a considerable saving in battery life and reduces amount of battery necessary for operation. All iron parts are protected by electro plating.

Upon energizing the right hand magnet the shutter is thrown to the left, after which it may be returned to the first position by energizing the left magnet.



No. 400

Trade No.	Description	Price Each
169561	Drop only	\$3.90

ELECTRIC RESET.—Standard wiring is for electric reset.

INDIVIDUAL RESET.—Requires a separate push button for each drop. Add to list 50 cents per drop for special connections; also add cost of individual reset buttons, \$3.50 per button. Automatic reset not furnished.



## EDWARDS PUSH BUTTONS

## SCHEDULE E



No. 620



No. 1062



No. 621



No. 63



No. 59



No. 1160



No. 260



No. 85

## DIXIE JR., No. 620

Non-turnable centers. Fully insulated. Scraping contact. Economy binding post takes all sizes of wire. Screws cannot come out. A high-grade reliable push. No. 60 escutcheon may be used with this push.

Trade No.	Mfrs. No.	Fits Hole Inches	Center	Std. Pkg.	Price Each
092017	620	$\frac{5}{8}$	Pearl	50	\$0.39

## NEW MIDGET, JR., No. 1062

Non-turnable center. Scraping contacts. No. 60 escutcheon may be used with this button.

091958	1062	$\frac{5}{8}$	Pearl	50	.34
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## DIXIE JR., PROTRUDING CENTER, No. 621

Phosphor bronze, U-shaped contact piece is molded into the condensite center, making a substantial, highly dependable, non-turnable, insulated push. Center protrudes  $\frac{5}{8}$  inch.

092018	621	$\frac{5}{8}$		1	1.40
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## NEW MITE, No. 63

Formed shell,  $\frac{5}{8} \times \frac{5}{8}$  inch over all; non-turnable centers.

091950	63	$\frac{1}{2}$	Pearl	50	.67
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## MIDGET, No. 59

Non-turnable centers, secure spring clip fasteners, phosphor-bronze contacts. Binding posts take any size wire. No. 61 escutcheon may be used with this button.

092004	59	$\frac{3}{4}$	Pearl	50	.77
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## MIDGET, RETURN CALL, No. 1160

For return call use. No. 61 escutcheon may be used with this button.

092012	1160	$\frac{3}{4}$	Pearl	1	1.40
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## VAN TASSEL, 4 CONTACT, No. 260

Formed shell; durable insulation; scraping contacts; non-grounding phosphor-bronze contact springs recessed in insulator, locking in place. For closing 2, 3 or 4 circuits; 4 contacts furnished unless otherwise ordered.

092015	260	$\frac{3}{4}$	Pearl	1	1.40
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## HIGH VOLTAGE, No. 85

Long quick break. Phosphor-bronze contact springs. Shell solid brass with condensite insulation and rubber center perfectly insulated.

Trade No.	Mfrs. No.	Volts	Style	Fits Hole Inches	Std. Pkg.	Price Each
091943	85	110	Open circuit	$\frac{3}{4}$	10	\$2.40
091944	85A	220	Open circuit	$1\frac{1}{8}$	1	6.20
091959	85C	220	Closed circuit	$1\frac{1}{8}$	1	7.85
			Hard rubber bushing for No. 85			1.40
			Hard rubber bushing for No. 85A			1.65

No. 85 for 220 volts closed circuit is not made.

Engraving on centers of pushes, one or two letters or figures, 50 cents list. Additional, per figure or letter, 25 cents list. Standard finish is nickel. Brush brass or bronze will be furnished, when specified without extra charge.

No. 2575

No. 2576  
No. 2577  
No. 2578  
No. 2579

No. 257

No. 2571  
No. 2572  
No. 2573  
No. 2574Any of  
Baker-Barb  
otherwise o



# PUSH BUTTONS

## PLAIN STYLES



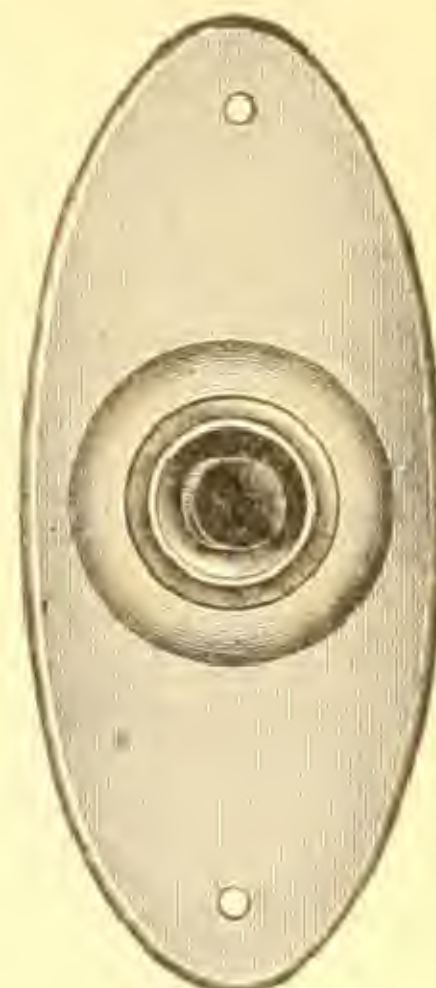
No. 25750



No. 25753



No. 25755



No. 25793

Trade No.	Mfrs. No.	Description	Size Inches	Number in Carton	Price per Doz.
092167	25750	Wrought bronze, loose back	4 1/8 x 1 3/8	6	\$9.00
092168	25753	Wrought bronze, loose back	4 x 2	6	9.00
092169	25755	Wrought bronze, loose back	4 x 2	6	9.00
092170	25793	Wrought bronze, loose back	4 3/4 x 2	6	9.00

## FANCY STYLES



No. 25794



No. 25795



No. 25792



No. 25770

092171	25794	Wrought bronze, loose back	4 3/4 x 2	6	9.00
092172	25795	Wrought bronze, loose back	4 1/8 x 1 3/8	6	9.00
092173	25792	Wrought bronze, loose back	4 3/4 x 2	6	9.00
092174	25770	Wrought bronze, loose back	4 x 2	6	9.00

Any of these pushes furnished in bronze, nickel plate, antique copper, oxidized copper, Bauer-Barff, or brushed brass, without extra charge. Polished bronze furnished, when not otherwise ordered.



## PUSH BUTTONS



No. 25575



No. 25578



No. 25577



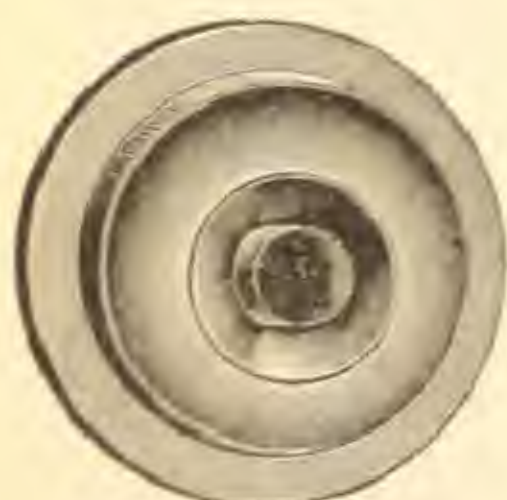
No. 25579



No. 25587



No. 25585



No. 25651



Anti-wood Push



Showing Method of Assembling

WROUGHT BRONZE METAL  
PUSHES

## Loose Back

Trade No.	Mfrs. No.	Size Inches	Car-ton	Price per Dozen
17130	25575	1 3/4	12	\$4.50
17131	25578	2 3/8	12	4.50
17132	25577	1 3/4	12	4.50
17133	25579	2 3/8	12	4.50
17134	25585	2 3/8	12	4.50
17135	25587	2 3/8	12	4.50

Any of the above metal pushes furnished in bronze, oxidized copper or brush brass, without extra charge. Polished bronze furnished when not otherwise ordered.

## CAST BRONZE METAL PUSHES

## Screw Cap

Trade No.	Mfrs. No.	Size Inches	Car-ton	Price per Dozen
17136	25651	2 3/8	12	\$11.95

## ANTI-WOOD PUSH BUTTONS

All objectionable features existing in wood pushes are overcome. No cracking, warping, sticking or swelling as in wood pushes; no bad threading; no screws to deface the appearance. They are better than screw cap pushes.

## Wrought Steel

Trade No.	Mfrs. No.	Finish	Size In.	Price per 100
17137	03	Red bronze	2 1/4	\$14.70
17138	04	Plain bronze	2 3/4	18.90
17139	08	Ox. copper	2 1/4	18.90
17140	010	Nickel-plated	2 1/4	18.90
17141	011	Satin brass	2 1/4	18.90



# PUSH BUTTONS

## WOOD PUSH BUTTONS

### Small

Polished finish, bone center.



No. 040868

Trade No.	Diam. Inches	Finish	Price Each
040868	1 1/4	Ash	\$0.20
040869	1 1/4	Walnut	.20

### Standard

Polished finish, porcelain center.



No. 040870

040870	2 1/8	Walnut	.10
040871	2 1/8	Ash	.10
040872	2 1/8	Stained cherry	.10
040873	2 1/8	Antique oak	.10
040874	2 1/8	Oak	.10
040875	2 1/8	Mahogany	.10



No. 040879

## DOUBLE CONTACT OR RETURN CALL PUSH BUTTONS

These push buttons have upper and lower stationary contacts and a movable spring which is normally in contact with upper point and makes contact on lower when the button is pressed.

Trade No.	Diam. Inches	Finish	Price Each
040879	2 1/4	Oak	\$0.25
040880	2 1/4	Ash	.25



No. 040881

## PAPER WEIGHT WOOD DESK PUSH BUTTONS

Trade No.	Diam. Inches	Finish	Price Each
040881	2 1/2	Oak	\$0.70

Polished wood push with lead in bottom.

## PEAR PUSHES



No. 25526

Trade No.	Mfrs. No.	Style Wood	Price per Doz.
062290	25526	Maple	\$2.40

Illustrations half actual size



## PUSH BUTTONS

## No. 1188



No. 1188

Push Button No. 1188 is of black moulded composition material which is not affected by weather conditions; has a red push centre. Diameter,  $1\frac{5}{8}$  inch. It can be used for either concealed or open wiring. It has heavy springs, contacts, screws and terminals; suitable for any class of work where a good, reliable button is required.

Trade No.	Mfrs. No.	Diam. Inches	Price Each
183651	1188	$1\frac{5}{8}$	\$0.50

## WATER-TIGHT PUSH BUTTONS

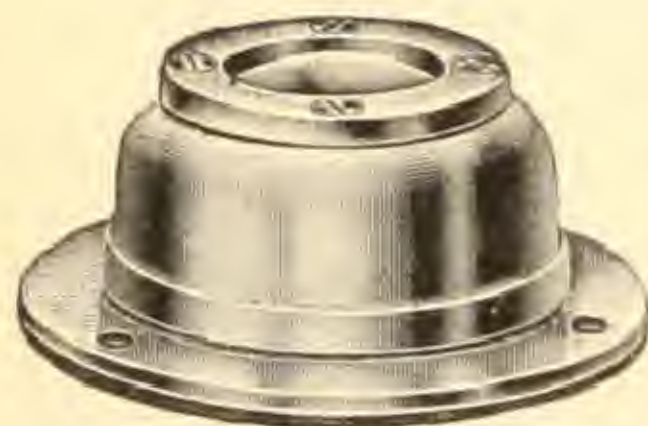


No. 1375

For use in boats, ice houses, cold storage plants, mines, or any place where the atmosphere is continuously damp. A water-tight pigskin cap is held in place over the push centre by a threaded ring. The base is solid bronze with two cast lugs projecting, through which connecting wires pass.

Trade No.	Mfrs. No.	Diam. Inches	Description	Price Each
183652	1375	$2\frac{1}{2}$	With platinum contacts.....	\$4.00
183653	1376	$2\frac{1}{2}$	With hard silver contacts.....	3.00

## IMPROVED NAVY STANDARD PUSH BUTTONS

Diameter,  $2\frac{5}{8}$  Inches

No. 1386

Has rubber gaskets under the base and between the base and screw cap. The push centre is protected by a pigskin covering, which is held in place by a ring fastened with four screws.

Furnished with hard rubber back and German silver springs with silver contacts.

Thousands of these push buttons have been purchased by the United States Navy Department for use in Government vessels.

Trade No.	Mfrs. No.	Diam. Inches	Description	Price Each
183654	1386	$2\frac{5}{8}$	With platinum contacts.....	\$4.50
183655	1390	$2\frac{5}{8}$	With hard silver contacts.....	3.20

## NAVY STANDARD NON-WATER TIGHT PUSH BUTTONS

Screw Cap



No. 1382

Trade No.	Mfrs. No.	Diam. Inches	Description	Price Each
183656	1382	$2\frac{3}{8}$	With platinum contacts.....	\$3.50
183657	1379	$2\frac{3}{8}$	With hard silver contacts.....	2.00



## PUSH BUTTONS

### WATERTIGHT PUSH BUTTONS

This push button is for use in boats, ice houses, cold storage plants, mines or any place where the atmosphere is continuously damp. A watertight pigskin cap is held in place over the push center by a threaded ring. The base is solid bronze with two cast lugs projecting, through which connecting wires pass.



No. 1375

Trade No.	Mfrs. No.	Description	Diam. In.	Price Each
183652	*1375	With platinum contacts	2 1/2	\$3.00
183653	*1376	With hard silver contacts	2 1/2	1.72

Prices include any finish from Nos. 1 to 11 inclusive.

### IMPROVED WATERTIGHT PUSH BUTTONS

#### Navy Standard

Push button has heavy German silver springs with platinum contacts. Push center covered by pigskin which is held in place by rim and four screws.



No. 1386

Trade No.	Mfrs. No.	Description	Diam. In.	Price Each
183654	1386	With platinum contacts	2 5/8	\$3.48

### NON-WATERTIGHT PUSH BUTTONS

#### Navy Standard

This push button has heavy platinum contacts; screw cap.



No. 1382

Trade No.	Mfrs. No.	Description	Diam. In.	Price Each
183656	1382	With platinum contacts	2 3/8	\$2.72

### PAPER WEIGHT WOOD DESK PUSH BUTTONS

This is a polished wood push, with lead in bottom which can be used as a paper weight. It is very convenient and neat.

Trade No.	Mfrs. No.	Description	Price Each
040881	1258	Wood push, oak only	\$0.85

### WOOD PUSH BUTTONS

#### Polished



No. 1259

Trade No.	Mfrs. No.	Description	Size Inches	Price Each
040870	1396	Walnut	2 1/8	\$0.10
040871	1398	Ash	2 1/8	.10
040872	1399	Stained cherry	2 1/8	.10
040873	1401	Antique oak	2 1/8	.10
040874	1397	Oak	2 1/8	.10
040875	1402	Mahogany	2 1/8	.10

### EXTENSION PUSH BUTTONS

This can be used as a regular push button and by attaching a double conductor flexible cord with pear push or table clamp on the end.



No. 1396

Trade No.	Mfrs. No.	Description	Price Each
67146	1364	Walnut or oak	\$0.75

\*The price quoted with each push is for the finish designated by the following numbers:

Finish No. 1, bronze, polished (natural color of metal). 2, nickel plated. 3, polished bronze, inlaid with black. 4, silver plated. 5, silver oxidized (mottled). 6, antique copper, dark color. 7, copper oxidized, mottled. 8 Bauerbarff (dead black). 9, brass, plated. 10, appearance of a dull, wrought copper finish. 11, lemon brass (brushed brass).



No. 1364



## PUSH BUTTONS



No. 25529



No. 25526



No. 25449



No. 25425



No. 25439

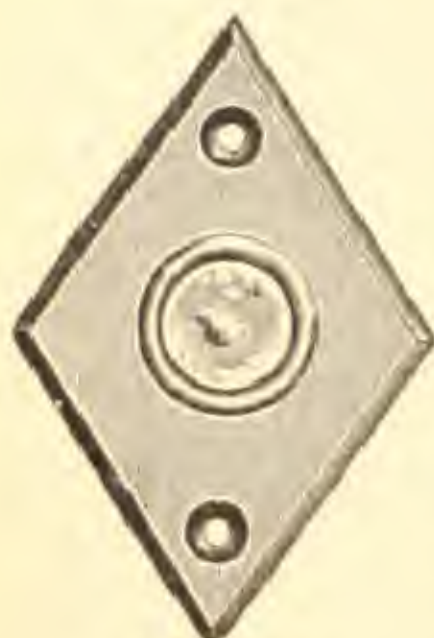


No. 26846

## PEAR PUSHES

Trade No.	Mfrs. No.	Style	Fancy	Price per Dozen
062286	25529	Oak		\$8.00
062287	25529A	Cherry		8.00
062288	25529B	Black Walnut		8.00
062289	25529C	Mahogany		8.00
			Plain	
062290	25526	Maple		3.60
062291	25526A	Imitation Black Walnut		3.60
062292	25526B	Stained Cherry		3.60

Illustrations half actual size.

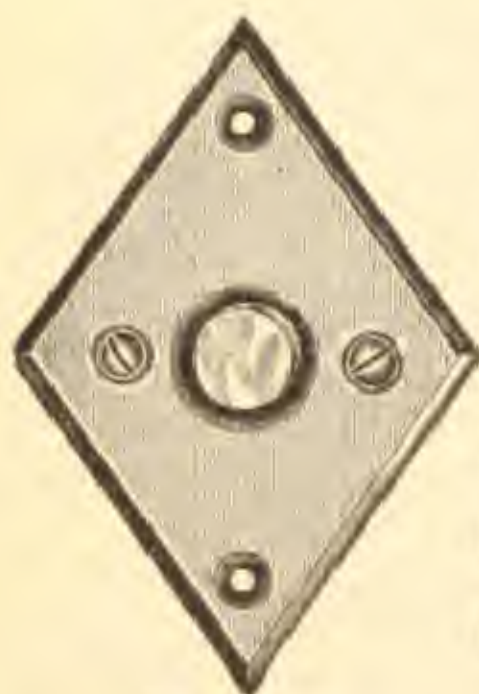


No. 26848

## MIDGET PUSHES

		5/8-inch Hole		Price Each
Trade No.	Mfrs. No.	Style Rim	Style Center	
062293	25449	Bronze	Light Pearl	.46
062294	25450	Nickel-plated	Light Pearl	.46
062295	25451	Bronze	Dark Pearl	.46
062296	25452	Nickel-plated	Dark Pearl	.46
			1/2-inch Hole	
062297	25425	Bronze	Black	.50
062298	25426	Nickel-plated	Black	.50
062299	25439	Bronze	Light Pearl	.40
062300	25440	Nickel-plated	Light Pearl	.40
062301	25441	Bronze	Dark Pearl	.40
062302	25442	Nickel-plated	Dark Pearl	.40

Illustration actual size.



No. 26849

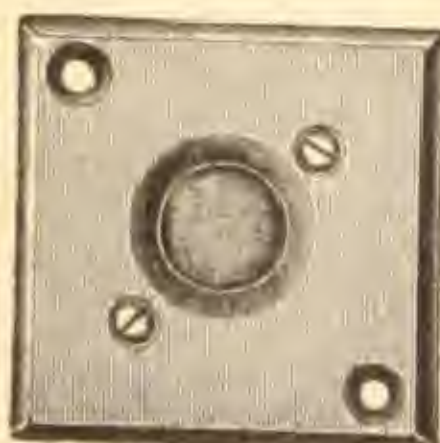
## FLUSH PUSHES

		Cast Brass, Nickel Plated		Price per Doz.
Trade No.	Mfrs. No.	Size Inches		
062303	26846	1 1/2 x 1 1/2		\$8.00
		Fitted with 1/2-inch white pearl center midget push.		
062304	26847	1 3/4 x 1 3/4		9.60
		Fitted with 5/8-inch white pearl center midget push.		
062305	26848	3 x 2		10.56
		Fitted with 5/8-inch white pearl center midget push.		
062306	26849	3 1/4 x 2 1/4		9.60
		Wood back, white pearl center, has 1/4-inch margin around back.		
062307	26850	2 x 2		8.00
		Wood back, white pearl center, has 1/4-inch margin around back.		

## COMPOUND PUSHES

		Cast Bronze, Nickel Plated		Price Each
Trade No.	Mfrs. No.	No. Pushes	Size Inches	
062308	26853	2	2x3	\$0.88
062309	26854	3	2x4	1.12
062310	26855	4	2x5	1.44
062311	26856	5	2x6	1.68
062312	26857	6	2x7	2.00

Intended for call bell use, white pearl center, unless otherwise ordered. Has 3/8-inch margin around back, wood backs.  
Similar in style to No. 26846



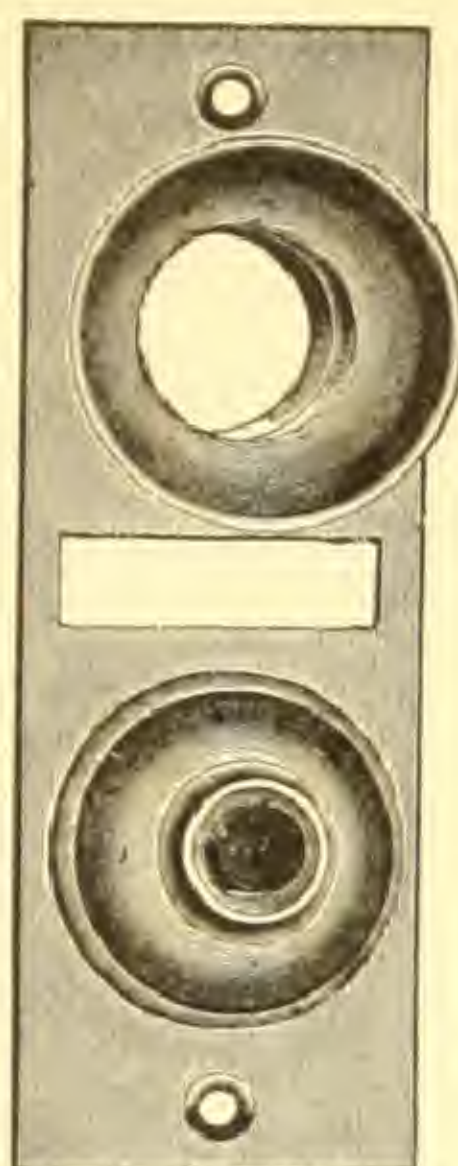
No. 26850



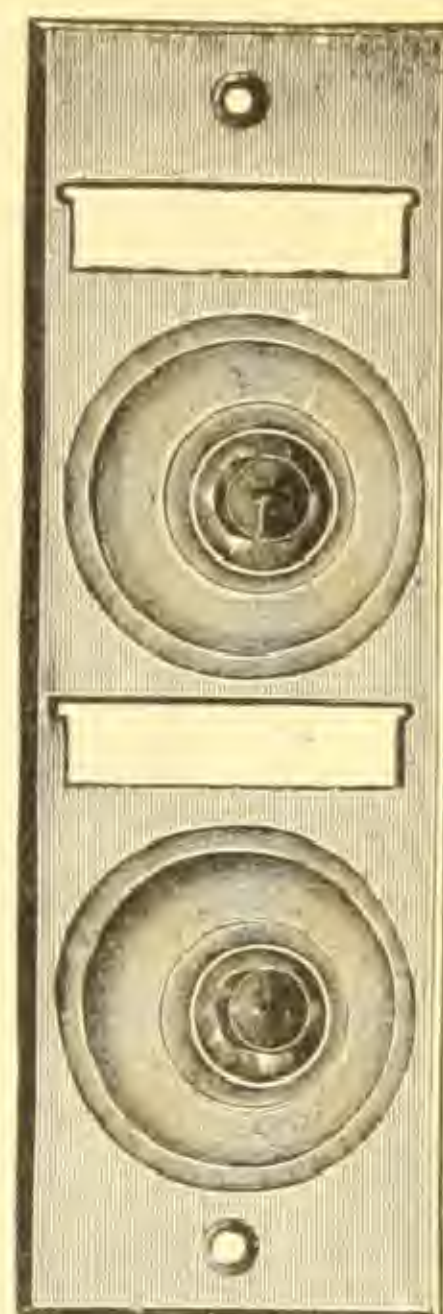
# PUSH BUTTONS



No. 025891



No. 025877



No. 025908



No. 025737



No. 025740



No. 025418

## LOOSE BACK

Trade No.		Bronze Finish	Size Inches	Std. Pkg.	Price per Doz.
025890	Plain	Cast	5 1/2 x 2 3/4	2	\$14.64
025891	Doctor's bell	Cast	5 7/8 x 2 3/4	2	19.20
025892	Janitor's bell	Cast	5 7/8 x 2 3/4	2	19.20
025893	Night bell	Cast	5 7/8 x 2 3/4	2	19.20

The above pushes are the same style as No. 025891.

025845	Doctor's bell	Cast	5 x 2 1/2	1	10.56
025846	Janitor's bell	Cast	5 x 2 1/2	1	10.56
025847	Night bell	Cast	5 x 2 1/2	1	10.56
025753	Plain	Wrought	4 x 2	6	4.80
025753A	Doctor's bell	Wrought	4 x 2	6	4.80
025753B	Janitor's bell	Wrought	4 x 2	6	4.80
025753C	Night bell	Wrought	4 x 2	6	4.80

The above pushes are same style as No. 025891, but without mouthpiece.

025877	.....	Wrought	5 3/4 x 2	3	10.00
025878	.....	Wrought	5 1/2 x 2	3	10.00

No. 025878 is the same style as No. 025877, but without name plate opening.

025907	2 Pushes	Wrought	6 5/8 x 2 1/4	1	10.80
025907A	3 Pushes	Cast	9 1/4 x 2 1/4	1	16.32
025907B	4 Pushes	Cast	11 3/4 x 2 1/4	1	21.60
025907C	5 Pushes	Cast	14 3/8 x 2 1/4	1	26.40

## SCREW CAP

025908	2 Pushes	Wrought	6 5/8 x 2 1/4	1	12.80
025908A	3 Pushes	Cast	9 1/4 x 2 1/4	1	18.00
025908B	4 Pushes	Cast	11 3/4 x 2 1/4	1	24.00
025908C	5 Pushes	Cast	14 3/8 x 2 1/4	1	28.00

## LOOSE BACK

025737	.....	Wrought	2 3/4 x 2 3/8	12	4.80
025740	.....	Cast	3 1/4 x 2	12	6.00

## PUSH BUTTON BACKS

025418	1/8-inch black fibre	1 1/16	100	.80
025420	3/16-inch black fibre	1 1/2	100	.96

Illustrations are one half actual size.



## PUSH BUTTONS

## DESK AND WALL PUSH BUTTONS

Sets flat on desk or table. Base is made of any wood desired and is weighted. Any metal finish desired. Name slides in black letters.

All springs phosphor-bronze. No spiral springs. Positive contact. Insulation of hard rubber.



No. 1A



No. 2A



No. 4A



No. 14EP



No. 5A

Trade No.	Mfrs. No.	Description	Price Each
062753	1A	First button	\$4.00
062754	1A	Additional buttons	2.00
062755	2A	First button	5.20
062756	2A	Additional buttons	2.00
Green mercerized cable, per foot, per conductor			.12

Cable attached to push buttons, 15 cents per terminal extra for attaching.

## With Wood Outlet Box

51891	3A	First button	4.00
51892	3A	Additional buttons	2.00

No. 3A is the faceplate and push buttons only, illustrated as No. 2A and without wood block.

## PUSH BUTTONS WITH LARGE NAME PLATES

Constructed same as buttons above. It can be arranged for desk, surface or flush mounting or used in apartment houses where no letter boxes are used. Faceplate nickel or brush brass; unless specified, nickel will be shipped.

## Flush Mounting

Trade No.	Mfrs. No.	Description	Price Each
51893	4A	First button	\$5.00
51894	4A	Additional buttons	3.00

## Desk or Surface Mounting

51895	4B	First button	6.00
51896	4B	Additional buttons	4.00

When ordered for desk or surface mounting please specify finish desired, as oak or mahogany is standard on the wood mat. Oak will be shipped if not specified. Special finishes, extra.

## ELEVATOR PUSH BUTTONS

Mechanical action perfect. Springs of phosphor-bronze. Made to fit standard switch box. Heavy brass bevel plate. Nickel or brush brass, standard; unless specified, nickel will be shipped. Other finishes, extra.

Trade No.	Mfrs. No.	Price, Each
062752	14EP	\$5.00

When ordering, state make of switch box used.

Markings for all the above buttons will be charged for at the rate of 20 cents per name or other indication, except numerals from 1 up for which no charge is made.

## PERFECTION PUSH BUTTONS

Knife switch, self-cleaning sliding jaw contacts. Perfectly insulated. All standard finishes. When not specified nickel will be shipped. Standard packages of 50 each.

Trade No.	Mfrs. No.	Style Button	Diameter Inches	Price Each
062757	5A	Celluloid	$\frac{5}{8}$	\$0.45
063821	5A	Pearl	$\frac{5}{8}$	.45

Engraving, extra per button, 32 cents.



## EDWARDS PUSH BUTTONS

### SCHEDULE E

### DIRECTORY PUSHES



No. 190

All current-carrying parts are fully insulated from front plate so that the directory push may be used with metal furniture without fear of grounding. Substantial connectors with formed ears and button head screws are used to prevent wire from spreading or slipping out, also making connecting easy and most secure.

Phosphor-bronze scraping self-cleaning contacts allow pleasant, uniform push. Spaces for name cards are liberal in size and any single card may be inserted or removed without dismounting block or disturbing the others. Large metal eyelet is provided at end of the No. 190 block for introduction and protection of cable.

The No. 191 is arranged for flush mounting in desk or wall. The wood block of the No. 190 is weighted and may be used as a paper weight.



No. 191

TRADE NUMBER		No. of Buttons	Std. Pkg.	Price Each	*Cord Extra
No. 190	No. 191				
90732	90741	1	5	\$3.90	\$1.16
90733	90742	2	5	5.30	1.72
90734	90743	3	5	6.60	2.30
90735	90744	4	5	8.10	2.88
90736	90745	5	5	9.40	3.45
90737	90746	6	5	10.80	4.02
90739	90748	8	5	13.70	5.20
90740	90749	10	5	16.40	6.32
90752	90753	12	5	20.25	7.50

\*Six feet of green silk covered cable attached.

Standard number of marking furnished, unless otherwise specified.

For pearl buttons, add to list 40 cents per button.

Assortment of all sizes and styles, totalling 50 buttons, to make one standard package.

Standard finishes are nickel and oak. Also furnished, at same price, with mahogany block and brass plate.



No. 158

### FLUSH OR SWITCH BOX PLATES

For standard switch boxes, drilled for, 1, 2 or 3 buttons,  $\frac{5}{8}$  inch, or 1 or 2 buttons,  $\frac{3}{4}$  inch. Screw hole centers are  $3\frac{3}{4}$  inches. Machine screws furnished. In ordering, state for which button plates are intended,  $\frac{5}{8}$  or  $\frac{3}{4}$  inch.

Trade No.	Mfrs. No.	No. of Buttons	Size Inches	Std. Pkg.	Price Each
091969	158	1	$4\frac{1}{4} \times 2\frac{1}{2}$	25	\$0.75
90754	158	2	$4\frac{1}{4} \times 2\frac{1}{2}$	25	1.00
90755	158	3	$4\frac{1}{4} \times 2\frac{1}{2}$	25	1.10

FINISHES.—Nickel-plated, brush brass, or bronze.



No. 136

### COMBINATION BELLS AND PUSHES

Consist of bell and push for call and return call in connection with annunciators.

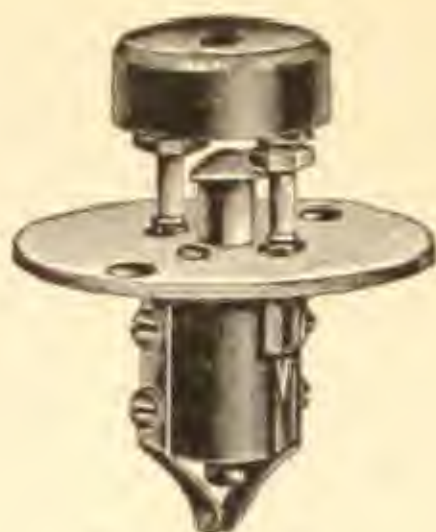
Trade No.	Mfrs. No.	Finish	Price Each
091970	136	Oxidized copper	\$4.50



## FLOOR PUSHES



No. 042615



No. 042616



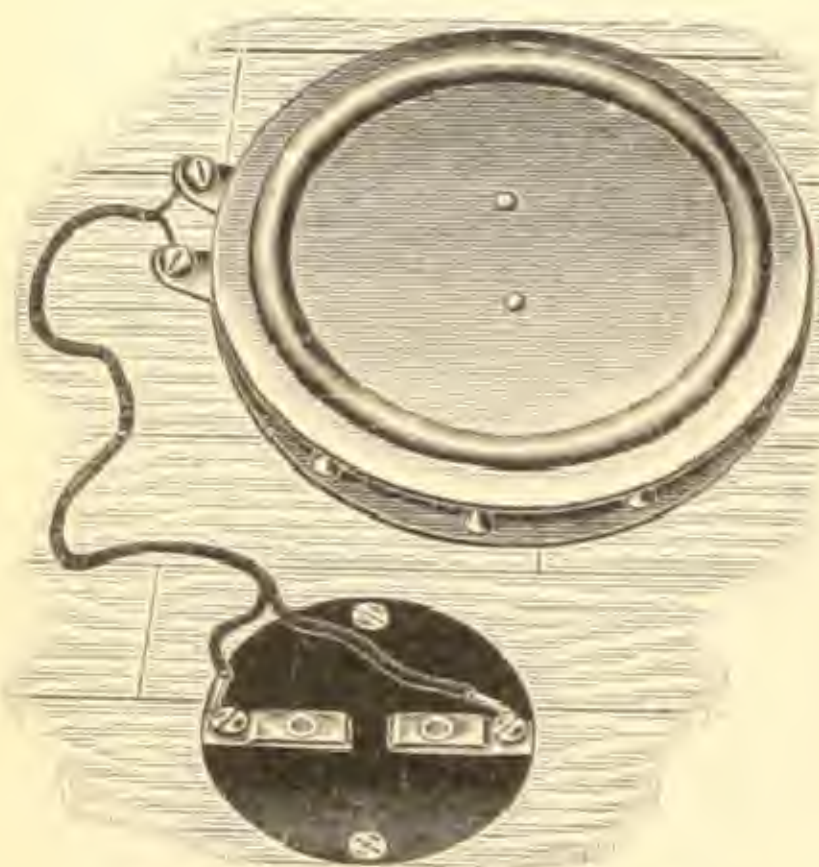
No. 042620



No. 64333



No. 042624



No. 042626 and No. 042627



No. 042628



No. 290

## PLAIN FLOOR PUSHES

Trade No.	Description	Price Each
042615	2 inches in diameter	\$0.80

## COMBINATION FLOOR PUSHES

042616	2 inches in diameter	.92
042617	Fitted with 2 yards of silk cord and plain pear push	1.00
042618	Fitted with 3 yards of silk cord and table clamp	1.25
042619	Fitted with 3 yards of silk cord and foot push	1.35

## DANDY FLOOR PUSHES

042620	Including plugs and eyelets	1.20
042621	Combination floor push, including Dandy Floor Push, 2 yards of silk cord and pear push	2.50

## EDWARDS TABLE CLAMPS

64333	May be used in connection with floor push or wall plug	1.50
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## DAISY FLOOR TREADS

The Daisy Floor Tread is designed to provide a floor push which can be installed without damaging valuable rugs by putting holes in them. By attaching a flexible cord it may be used as a portable push.

042624	Diameter, 2 1/2 inches	1.50
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## RELIABLE FLOOR TREADS

042626	1/4 inch thick	1.50
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## FLUSH DISC, FLOOR CONNECTORS

A fibre disc to be inserted flush with the floor for cord connectors.

042627	Diameter, 2 inches	.48
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## RENIM FLOOR TREADS

Will not creep or shift its position under the rug.  
Will not injure the finest rug; the sharp point extending well up between the meshes makes it easy to find and prevents wear.

Trade No.	Description	Std. Pkg.	Price Each
042628	3 inches diameter	12	\$1.00

## DIXIE FLOOR TREADS

Double heavy brass contact plates, felt-covered bottom. Can be used under rug to avoid cutting. Constructed sufficiently rigid to bear weight of rug. Strain removed from connections by passing wire over three rounded corners. Vise grip, solderless connections.

Trade No.	Mfrs. No.	Std. Pkg.	Price Each
092133	290	25	\$2.10



## EDWARDS BELLS AND BUZZERS

### SCHEDULE Q

#### IRON BOX BELLS AND BUZZERS

Fahnestock clips are used exclusively on Edwards Bells and insure quick and secure connection of line wires. Striker is underneath gong and protected from injury. Gong is riveted to base to prevent loosening. The base and supports for gong, magnets and armature are formed from one piece of sheet steel, zinc plated and finished in black enamel.

The armature is pivoted at center of balance. Cover is fastened at three points and fits snugly all around, making movement bug and dust proof. Connections are solderless but secure and no rubber is used. Gongs are nickel-plated, base and cover black enameled.

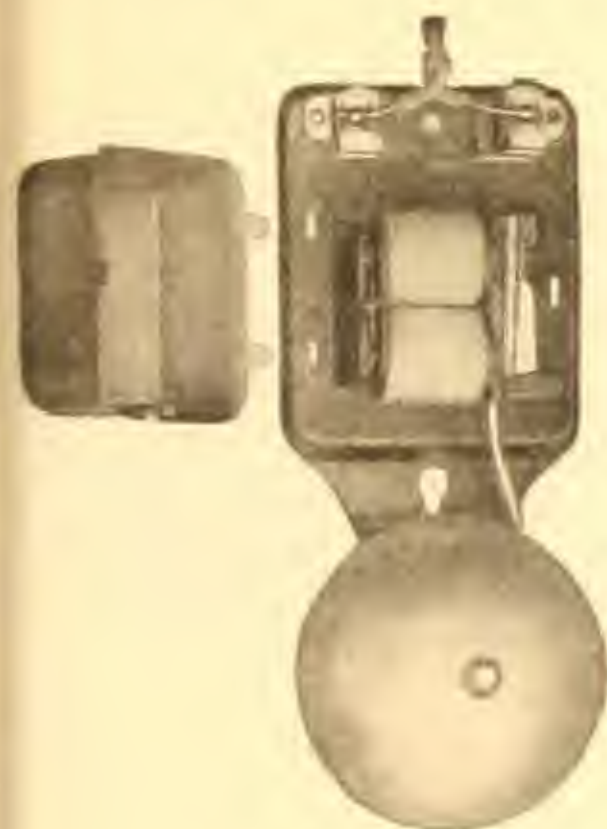


Class A Bell

#### Arrow, Class A—5 Ohms

Has higher resistance than Class B or Class C. Contacts are adjustable with positive locknut.

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Price Each
075054	700	2½	100	\$1.62
075055	702	3	100	1.70
075056	704	4	50	2.05
075074	705 Buzzer		100	1.59
075057	Fancy gongs		50	2.35



Class C Bell

#### Cadet, Class B—3 Ohms

Identical with the Arrow except wound to lower resistance.

075058	710	2½	100	1.08
075059	712	3	100	1.16
075060	714	4	50	1.51
075075	715 Buzzer		100	1.05
075061	Fancy gongs		50	1.80

#### Dixie, Class C—3 Ohms

Same as the Cadet except the Dixie is not adjustable.

075062	720	2½	100	1.00
075063	722	3	100	1.08
075064	724	4	50	1.43
075076	725 Buzzer		100	.97
075065	Fancy gongs		50	1.72



Iron Box Buzzer

#### RE-AL MONITOR BELLS

##### No. 156—3 Ohms

This small compact bell is especially designed for street cars, apartment houses and annunciator work and for positive operation under the most severe conditions.

Entire movement self-contained unit. Heavy phosphor bronze contact springs. Direct acting straight line hammer rod. Large wiping contact points. Weather, dust and bug proof.

Finished, nickel-plated gong, black enamel base.

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Price Each
075073	156	3	20	\$3.00

Prices on special resistance Monitor Bells on application.



Monitor Bell



## EDWARDS BELLS

## SCHEDULE E



No. 17



No. 510

No. 510  
Cover Removed

## ECONOMY SKELETON BELLS—No. 17

For Battery Current—Standard Winding 6 Volts

An intensified and powerful stroke with great economy of current is obtained as follows: The armature, contact spring and their support from a single unit. The spring serves the double purpose of holding the contact points and supplying the spring tension for the armature action. The portion of the spring beyond the contact point is bent at right angles and passes through an opening in the armature, and has a return bend so that the end of the spring passes between the magnet head and the armature.

When the magnets are energized they attract the armature but the contact points do not separate until the armature has practically completed its stroke. The pull of the magnet is effective during the entire stroke, which is long and powerful. As the armature nears the magnet it engages the return bend of the contact spring, drawing the spring away from the contact screw and opening the circuit.

This method of opening the circuit (which is patented) provides a longer and more powerful stroke than can be obtained in any other way. It insures the highest efficiency because it brings the armature into the densest magnetic field before the circuit is broken. The separation of the contact parts is not left to chance but the circuit is mechanically opened. The action is positive; the design is simple and effective.

New Code Binding Posts, as approved by the National Board of Fire Underwriters, are supplied on these bells. Wires may be quickly connected. After the screws are set down, it is impossible for wires to spread or loosen.

Trade No.	Size Inches	Std. Pkg.	Price Each	Trade No.	Size Inches	Std. Pkg.	Price Each
147296	3	8	\$5.55	147301	8	6	\$14.37
147297	4	8	6.58	147302	10	4	21.34
147298	5	8	7.80	147303	12	4	27.50
147299	6	12	8.82				

## TRANSFORMER BELLS—No. 510

Standard Winding, 6-24 Volts, 60 Cycles, A. C.

Designed for use in schools, industrial plants, institutions, and wherever reliable signals are required. Any number of bells may be operated from one transformer. Owing to the method of armature suspension, the laminated field and cores, and other details of construction, a powerful blow is obtained which produces the greatest volume of sound with a remarkably small current consumption. These bells are of the protected type and, where specified, are furnished with gaskets making them weatherproof. An ingenious and very desirable feature is that two entrances for wires are provided, both of which are sealed with wax which can be "knocked out" of the one to be used. These are placed one at the top for use with surface wiring and the other on the back for concealed wiring. New Code binding posts are furnished.

## REGULAR

Size Inches	Trade No.	Std. Pkg.	Price Each	Without Grid			WEATHERPROOF			With Part Grid		
				Trade No.	Std. Pkg.	Price Each	Trade No.	Std. Pkg.	Price Each	Trade No.	Std. Pkg.	Price Each
Buzzer	154377	6	\$7.15	154380	6	\$9.95				154387	6	17.05
3	154378	6	7.55	153381	6	10.30				154388	6	17.60
4	154379	6	8.05	154382	6	10.85	154385	6	28.80	147322	6	27.15
5	147304	6	17.20	147310	6	19.95	147316	6	40.90	147323	6	29.00
6	147305	6	19.10	147311	6	21.85	147317	6	42.80	147325	6	36.20
8	147307	6	23.70	147313	6	26.50	147319	6	52.70	147326	3	57.85
10	147308	3	42.35	147314	3	45.10	147320	3	78.05			
12	147309	3	48.55	147315	3	51.30	147321	3	93.20	147327	3	68.50

Other voltages and frequencies can be furnished.

NOTE.—Standard package may be made up of all types of the same size or an assortment of ten, all types and all sizes.



# BELLS, BUZZERS AND CIRCUIT CLOSING DEVICES

## LUNGEN BELLS

### SCHEDULE E

#### No. 13

Cover and base formed steel; unit hammer rod and armature; pivoted armature; small hammer rod channel; heavy spring nut adjustment; brass gong heavily nicked; ribbed edges, spring cover. Compact, positive acting, durable, insect-proof.

Trade No.	Mfrs. No.	Size Inches	Price Each	Trade No.	Mfrs. No.	Size In.	Price Each
094351	13	1	\$2.00	094355	13	3	\$1.55
094352	13	1 3/4	1.80	094356	13	4	2.05
094354	13	2 1/2	1.40				

Fancy gongs may be used on the 2 1/2-inch size; price, complete bell, each \$2.06. Std. pkg. 6.

FINISH.—1-inch size, all nickel; other sizes enameled base, nickel gong and cover.

STD. PKG.—Sizes 1-1 3/4 and 4, six; sizes 2 1/2-3, twelve.

#### No. 14

Characteristics and specifications, the same as No. 13, except as follows:

Cast base; screw and locknut adjustment.

094357	14	5	12.55	094362	14	10	30.90
094358	14	6	14.55	094363	14	12	40.50
094360	14	8	19.00				

FINISH.—Japanned; gong and binding post nickel. Prices for special finishes upon application.

STD. PKG.—Sizes 5-6-8, three; sizes 10-12, two.

## LUNGEN BUZZERS

### SCHEDULE E

#### No. 15

Cover and base formed sheet steel; pivoted armature; spring nut adjustment; ribbed edge spring cover.

Trade No.	Size No.	Std. Pkg.	Price Each	Trade No.	Size No.	Std. Pkg.	Price Each
094364	0	10	\$1.86	094367	3	10	\$1.96
094365	1	25	1.42	094368	4	10	2.19
094366	2	25	1.72				

FINISH.—No. 0, full nickel; larger sizes, japanned base, nickel cover.

## BRONX BUZZERS

### SCHEDULE E

#### Watchcase No. 750

A brass case, heavily nickel-plated; phosphor-bronze springs, silver contacts.

Trade No.	Mfrs. No.	Height Inches	Diam. Inches	Std. Pkg.	Price Each
094369	750	5/8	1 3/4	20	\$1.08

## CONSTANT RINGING DROPS

### SCHEDULE E

#### No. 26

Used on main line.

When circuit closes, lever drops and bell rings until circuit is broken by raising lever. Cover, lever and binding posts, nickel; japanned base.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
091730	26B	For battery	25	\$2.70
091731	26M	For magneto	6	3.92
091732	26X	Indicating buzzer	6	3.92

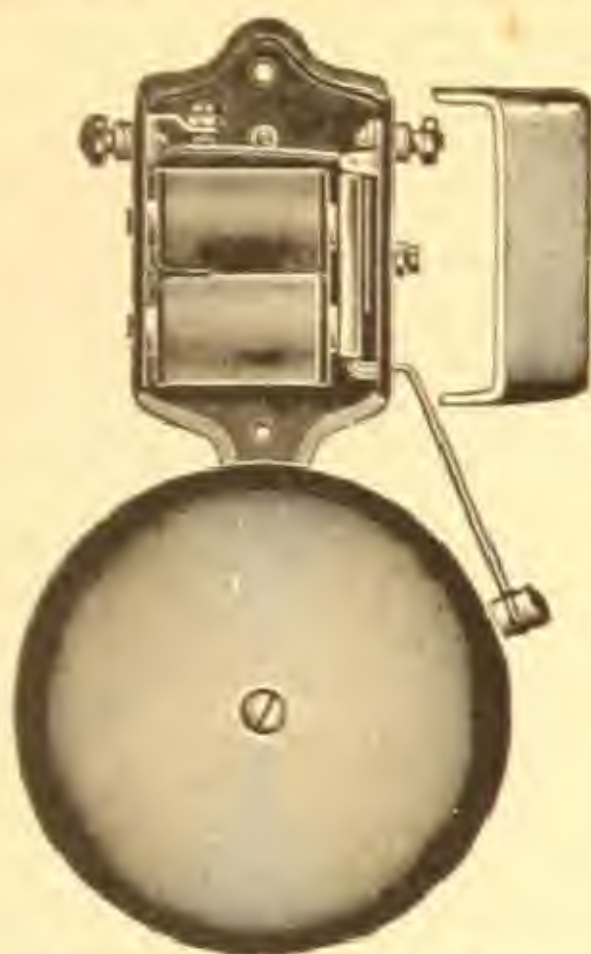
## DIXIE RELAYS

### SCHEDULE T

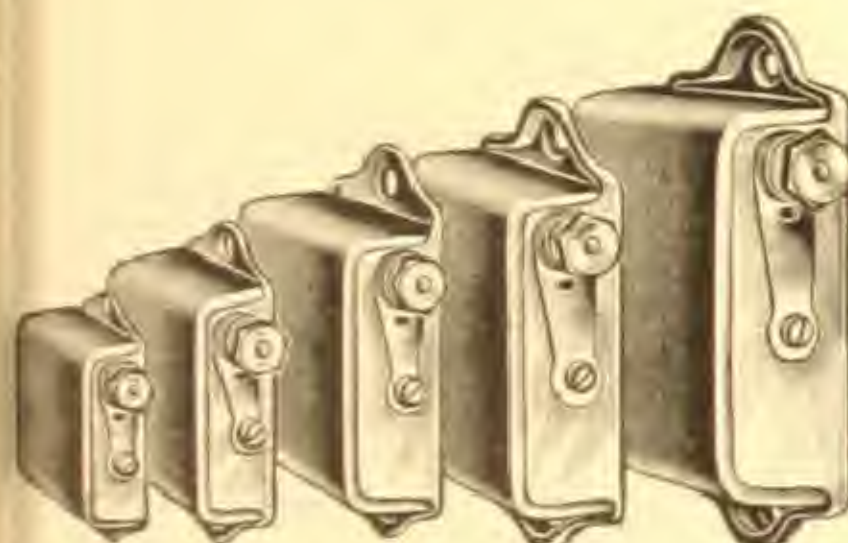
#### No. 1238

A new relay combining all the necessary features of the pony type. It has been made so that the adjustment, length of break, etc., is plainly visible.

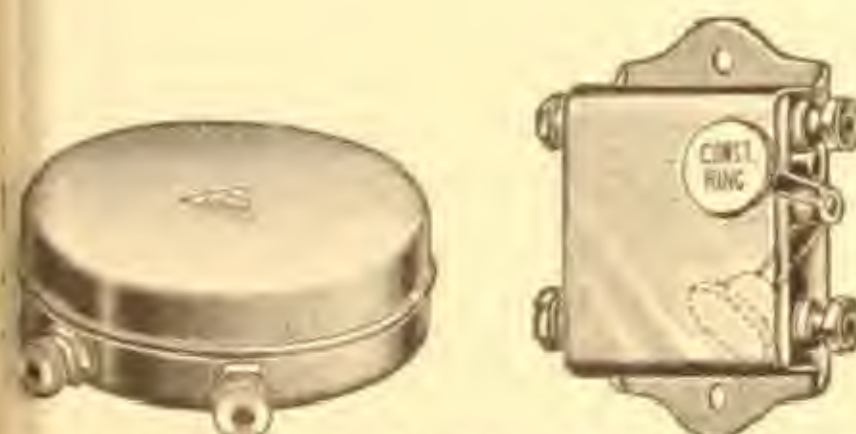
Trade No.	Mfrs. No.	Description	Price Each
198583	1238	Dixie Relay	\$6.00



Nos. 13 and 14 Bells



Lungen Buzzers



Watchcase Buzzer Constant Ringing Drop



No. 1238 Relay



## EDWARDS RECTI VIBRATING BELLS

## SCHEDULE E

## FOR BATTERY CURRENT

APPROVED BY NATIONAL BOARD OF FIRE UNDERWRITERS



No. 100  
Standard Type

No. 100A  
Automobile Type



No. 219  
Underdome Type



No. 100U  
Underwriter's Type

## No. 100

No. 100 is a rugged and powerful weatherproof bell of lasting durability specially adapted for fire alarms, factories, signal systems, mine or marine use. The mechanism is entirely insulated from the case which is not, at any time, a part of the circuit. Finish: Case japanned, gong polished brass.

## No. 100A

Designed for use on motor vehicles. Gong is mounted with concave side outward to prevent collection of mud or other matter which would deaden the sound. Particularly adapted for use in exposed places without extra protection and gives a clear, compelling warning sound. Operated from primary or storage batteries. Standard automobile voltages at 22, 44 and 88 volts will be furnished at prices listed below.

## No. 219

The same as No. 100 except that the gong is mounted over the mechanism and the hammer strikes the gong on the under side.

## No. 100U

Approved by the National Board of Fire Underwriters for Sprinkler Systems and 250 volts or less. Flexible wire leads instead of binding posts are brought from the case through insulating bushings so that line wires may be properly connected to these leads. This method is preferred to friction contacts by the Underwriters' Laboratory and by many leading engineers.

## Prices for All Above Bells—For Battery Use

Size In.	Dry Cell Required	Ohms Resistance	Amperes per Gong	Std. Pkg.	Price Each
3	3	2	.35	6	\$8.85
4	3	2	.35	6	10.85
5	4	4	.30	6	15.80
6	4	4	.30	6	17.80
8	4	4	.30	4	22.00
10	6	6	.20	2	37.00
12	6	6	.20	2	49.90
14	8	10	.12	2	61.60
16	8	10	.12	1	129.30
18	8	10	.12	1	146.95

In ordering specify type of bell and give size desired.

## SPECIAL RESISTANCE TABLE

Add Prices Shown to List Price of Bell or Buzzer

Ohms Resistance	BUZZER		SIZE OF BELL, INCHES			
	220-A	220-B	3 and 4	5-8	10-12	14-18
1 to 10	\$2.90	\$4.40	\$2.90	\$4.40	\$8.50	\$11.40
11 to 20	3.20	4.70	3.20	4.70	8.80	11.70
21 to 50	4.10	5.90	4.10	5.90	10.30	13.50
51 to 100	5.00	7.10	5.00	7.10	11.80	14.90
101 to 200	6.00	8.30	6.00	8.30	13.30	16.50
201 to 300	7.00	9.50	7.00	9.50	14.80	18.10
301 to 500	9.00	11.90	9.00	11.90	17.60	21.30
501 to 1000	12.00	15.20	12.00	15.20	21.60	25.40
1001 to 1500	15.00	18.80	15.00	18.80	25.40	29.50

To determine the cost of special resistance bells for a given voltage, of battery or D. C. lighting circuit, figure that the ohmage will be three times the operating voltage: Example—A 6-inch bell to operate on 30 volts.  $30 \times 3 = 90$  (the number of ohms resistance). Price of No. 100 6 inch bell, \$17.80. Price of special resistance, 90 ohms, \$7.10. Price of No. 100 6-inch 30-volt bell, \$24.90.

NOTE.—In ordering special resistance bells the voltage at which they are to operate should be stated.



No. 220 or 10

Size	Std. Pkg.
4	6
5	6
6	6
8	4
10	2
12	2



Recti Buzzer No. 220

Size	Std. Pkg.
4	6
5	6
6	6
8	4
10	2
12	2

No. 220  
For special

Part Grid

NOTE.—8  
all types

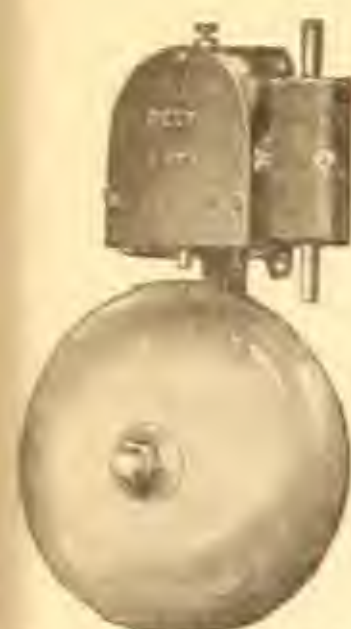


## EDWARDS RECTI BELLS AND BUZZERS

### SCHEDULE E

#### CONDUIT TYPE RECTI BELLS, No. 1001

##### For Battery or Lighting Circuits



A special receptacle for conduit is secured to the Recti case. Connectors or binding posts are enclosed by this conduit box and may be exposed by loosening two screws and removing the upper half of the box. A metal disc is provided to close one of the openings where the bell is used on the end of the line.

No. 1001 for battery or direct current up to 250 volts.

No. 1001 AC for Alternating Current up to 220 volts, 25, 40 or 60 cycles, single-phase.

Size Inches	Std. Pkg.	FOR BATTERY				PRICE, EACH			
		Dry Cells	Ohms Resist.	Amps. per Gong	Price Each	110 Volts D. C.	220 Volts D. C.	110 Volts A. C.	220 Volts A. C.
4	6	3	2	.35	\$19.30	\$27.50	\$35.74	\$28.45	\$34.10
5	6	4	4	.30	25.90	38.00	50.10	39.05	51.20
6	6	4	4	.30	27.90	40.65	53.35	41.90	54.60
8	4	4	4	.30	34.35	49.30	64.25	49.50	64.50
10	2	6	6	.20	49.30	67.25	85.20	72.40	90.35
12	2	6	6	.20	65.25	83.20	101.15	95.60	113.60



Recti Buzzer  
No. 220

#### RECTI BUZZERS, Nos. 220A AND 220B

##### For Operation on Battery, Direct and Alternating Current

No. 220A has same movement as 3-inch Recti bell.

No. 220B has same movement as 5-inch Recti bell.

The same efficient operation and serviceability as the Recti bell.

Mfrs. No.	Std. Pkg.	BATTERY CURRENT				DIRECT CURRENT				ALTERNATING CURRENT			
		Dry Cells	Ohms Resist.	Amps. Each	Price Each	110-125 Volts Ohms Resist.	Price Each	220 Volts Ohms Resist.	Price Each	110 Volts Ohms Resist.	Price Each	220 Volts Ohms Resist.	Price Each
220-A	6	3	2	.35	\$7.90	500	\$10.45	2000	\$16.75	45	...	100	...
220-B	6	4	4	.30	11.90	500	17.95	2000	24.10	45	...	100	...

No. 220-A is furnished with silver contacts. For carbon contacts add to list price 50 cents. For special resistances see another page.

#### PROTECTIVE GRIDS FOR RECTI BELLS

Extra protection to make the Recti proof from malicious injury is afforded by the part grid and full grid which can be supplied for all types except the Underdome.

##### Additional List Prices for Grids



Part Grid



Full Grid

Size Inches	PRICE, EACH	
	Part Grid	Full Grid
4	\$6.75	\$17.95
5-6	7.15	20.95
8	9.75	26.20
10	12.70	32.90
12	17.20	41.90
14	24.70	52.35
15	31.40	62.85
16	38.90	76.30
18	49.40	95.75

NOTE.—Standard package may be made up of all types in the same size, or an assortment of ten, all types and all sizes.



## EDWARDS RECTI VIBRATING BELLS

Approved by National Board of Fire Underwriters

### TYPES OF RECTI BELLS

Battery and Direct Current up to 600 Volts

- |          |                               |
|----------|-------------------------------|
| No. 100  | Standard Type.                |
| No. 100U | Underwriters' Type.           |
| No. 217  | High Voltage up to 600 Volts. |
| No. 219  | Underdome Type.               |
| No. 1001 | Conduit Type.                 |
| No. 220  | Recti Buzzer                  |

### Alternating Current

- |                     |                            |
|---------------------|----------------------------|
| No. 100 UAC         | Underwriters' Type.        |
| No. 100 AC          | Standard Alternating Type. |
| No. 220 A and 220 B | Buzzer.                    |
| No. 1001 AC         | Conduit Type.              |
| No. 219 AC          | Underdome Type.            |

Data and list prices on the above types will be found on the following pages.

### Construction

Recti Bells are constructed for use where exceptionally rugged, clear ringing, weather-proof (or protected bells) are desired.

They are furnished in sizes from three to eighteen inches in various styles of all voltages and have been used with universal satisfaction on the severest kind of work for many years.

**CASE.**—Is of iron, heavily japanned, cover is lined with an oil soaked gasket, allowing no moisture to penetrate to mechanism.

**MAGNETS.**—The scientific proportions of the magnets obtain the maximum strength with the greatest battery economy. Magnets are impregnated with a moisture repelling, insulating compound.

**SPRINGS.**—Are of the highest grade phosphor bronze.

**CONTACTS.**—Carbon contacts made of standard 10M carbon rod are furnished on sizes 5 inches and larger, and will outwear platinum or any other metal. They will not rust, corrode, fuse or stick together and have a large clean surface insuring a positive contact.

**SILVER CONTACTS.**—Are furnished on 3 and 4 inch bells. For carbon contacts in these sizes add to list 50 cents.

**HAMMER ROD.**—Is of solid brass and direct acting.

**OPERATION.**—The Recti is the only bell in which the hammer rod is of the plunger type working in a direct line — not on the arc of a circle—hence the opening in the case, through which the rod passes, is but a trifle larger than the rod, making it positively weather, dust and insect proof.

This design also makes it possible to support the hammer rod at two points so there is no strain on the pivots, which is a deviation from the usual method of having the pivots bear the strain of the hammer, hammer rod and ball, all of which adapts the Recti to use in places where vibration and strain soon destroy the ordinary bell.



No. 100  
Standard Type



No. 100 U  
Underwriters' Type



No. 219  
Underdome Type



No. 1001  
Conduit Type



# EDWARDS RECTI BELLS

## SCHEDULE E

### FOR ELECTRIC LIGHTING OR POWER CIRCUITS

FOR ALTERNATING CURRENT  
UP TO 220 VOLTS, 25, 40 OR 60 CYCLES, SINGLE-PHASE

Nos. 100 AC, 100 UAC and 219 AC



No. 100 AC  
Standard Type

Size Inches	Std. Pkg.	PRICE, EACH	
		110-125 Volts	220-250 Volts
4	6	\$17.45	\$25.65
5	6	28.95	41.05
6	6	31.80	44.55
8	4	37.35	52.30
10	2	60.00	77.95
12	2	80.25	98.25

Not furnished in larger sizes for alternating current.

Above bells are not designed for use with bell ringing transformers. For bell to operate on low voltage transformers, see Type No. 510.



No. 100 UAC  
Underwriter's Type

### FOR DIRECT CURRENT UP TO 250 VOLTS

Nos. 100, 100 U and 219

Size Inches	Std. Pkg.	PRICE, EACH	
		110-125 Volts	220-250 Volts
3	6	\$17.90	\$25.80
4	6	19.10	27.30
5	6	27.90	40.00
6	6	30.50	43.25
8	4	37.00	51.90
10	2	54.90	72.90
12	2	67.85	85.80
14	2	82.50	103.50
16	1	159.20	189.10
18	1	176.90	206.80



No. 219 AC  
Underdome Type

### HIGH VOLTAGE TYPE, No. 217

#### FOR DIRECT CURRENT UP TO 600 VOLTS

The No. 217 is a special type for use on direct current up to 600 volts. It has slate base, long, quick-break contacts, powerful mechanism and produces a great volume of sound. Operates with gong up only.



No. 217  
High Voltage Type

Size Inches	Std. Pkg.	VOLTS, DIRECT CURRENT		
		Up to 299	300 to 499	500 to 600
6	6	\$49.80	\$62.50	\$68.30
8	6	59.70	69.15	73.25
10	2	80.15	84.75	91.35
12	2	92.20	102.05	107.00
14	2	115.20	125.90	130.85
16	1	177.75	188.60	193.40
18	1	212.30	222.95	227.50

In ordering, specify type of bell and give size and voltage on which it is to operate.

NOTE.—Standard package may be made up types Recti in the same sizes, or an assortment of ten Recti, all types and all sizes.



## EDWARDS BELLS

## SCHEDULE I

## VIGILANT SINGLE STROKE BELLS

## BATTERY OR LIGHTING VOLTAGE

A new bell embodying all the desirable features of the former Vigilant and having decided improvements in design. A sturdy and reliable bell for fire alarm systems, warehouses, offices, and general signal work. Magnets are large and powerful. Standard resistance 6 ohms. Armature is strongly attracted from considerable distance, giving the hammer a long sweep and powerful blow. The hammer is attached to the hammer rod by a strong flat spring, causing a quick recoil, resulting in clear, distinct signals. Made in three types as follows:

No. 21, as described above. Non conduit.

No. 21-C, for concealed or surface conduit. A separable conduit attachment which can be installed with the conduit and the bell attachment thereon when the wires are pulled through. The attachment has inside bosses so it is possible to come in from any direction. This makes an ideal through box. Drilled for  $\frac{1}{2}$ - or  $\frac{3}{4}$ -inch conduit as specified. Finish, black enamel.



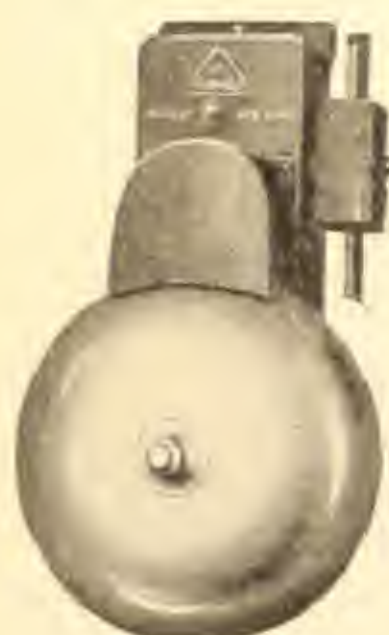
No. 21  
Showing Conduit  
Attachment

No. 21			No. 21-C			No. 21			No. 21-C		
Size In.	Trade No.	Price Each	Trade No.	Price Each		Size In.	Trade No.	Price Each	Trade No.	Price Each	
4	202546	\$18.30	202551	\$26.80		12	202561	\$ 70.85	202565	\$86.20	
5	202547	24.75	202552	34.85		14	202562	97.45	202566	116.15	
6	202548	26.75	202553	36.90		16	202563	159.20	202567	133.90	
8	202549	33.25	202554	45.55		18	202564	176.85	202568	201.55	
10	202550	54.90	202555	67.25							

## ELECTRO-MECHANICAL GONGS—5 OHMS

Will operate on either open or closed circuit, and can be arranged to operate as a single-stroke or constant ringing gong.

These bells are guaranteed to give 350 blows to one winding. Where so ordered, they can be equipped with a special contact-making device, which closes a local circuit to ring a bell as an indication that rewinding is necessary. The device is insulated from and independent of the regular alarm circuit, and operates when the bell has arrived at a capacity of about 60 blows; or will operate if the main spring should break.



No. 1331



No. 133

## WEATHERPROOF

No. 1330  
for Concealed  
Conduit

Trade No.

78844

086472

086473

086474

78842

78846

097003

No. 1331  
for Surface  
Conduit

Trade No.

78847

086481

086482

086483

78843

78849

78850

Size  
Inches

6

8

10

12

14

16

18

Price  
Each

\$99.10

103.65

114.10

124.55

138.05

167.95

182.90

For winding indicator, add to list, \$5.00.

## No. 133

Trade No.	Size Inches	Price Each	Trade No.	Size Inches	Price Each
086574	6	\$86.80	086578	14	\$125.70
086575	8	91.30	086580	16	155.60
086576	10	101.75	086581	18	170.60
086577	12	112.25			

Prices on special resistance gongs on application



## DOOR OPENERS

### SCHEDULE E

Edwards door openers are compact and rugged. Available for use under the most varying conditions and may be installed at a minimum expense. All door openers except Nos. 9 and 52 can be supplied with a release check so they may be used where air checks are employed, for which add to list \$2.00. All door openers except Nos. 1541 and 1542 may be used on either right or left hand doors.



No. 9

### No. 9 ECONOMY MORTISE TYPE

#### Solid Nose

This door opener is made of heavy pressed steel, heavily brass plated. Used extensively for apartments. Fits same size mortise as same shape openers of other manufacturers.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES—			Nosing Opening Inches	Face Plate Inches	Std. Pkg.	Price Each
199787	9	3 $\frac{5}{8}$	1 $\frac{3}{4}$	1	1 $\frac{3}{16}$	5 $\frac{1}{8}$ x1 $\frac{1}{4}$	100	\$3.10

Price includes No. 89 Pushout spring.



No. 154

### No. 154 MORTISE TYPE DOOR OPENERS

#### Roller Nose

Suitable for heavy doors. Requires a smaller mortise than the Economy.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES—			Nosing Opening Inches	Face Plate Inches	Std. Pkg.	Price Each
199788	154	2	2 $\frac{7}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$ x3 $\frac{3}{8}$	10	\$5.65

Price includes No. 79 Pushout Spring.

Finish, brass.

### No. 155 NOJAR, MORTISE TYPE DOOR OPENERS

#### Solid Nose

Excepting for the difference in the nose No. 155 is the same as No. 154.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES—			Nosing Opening Inches	Face Plate Inches	Std. Pkg.	Price Each
199789	155	2	2 $\frac{7}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$ x3 $\frac{3}{8}$	10	\$4.95

Price includes No. 79 Pushout Spring.

Finish, brass.



No. 155

### No. 152 RIM TYPE DOOR OPENERS

#### Solid Nose

For surface locks, thin doors, etc. Made of cast bronze and very substantial. Brass front.

Trade No.	Mfrs. No.	DIMENSIONS, INCHES—			Nosing Opening Inches	Std. Pkg.	Price Each
199790	152	2	2 $\frac{3}{16}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	10	\$6.00

Price includes No. 79 Pushout Spring.

#### Arranged for Surface Conduit

Trade No.	Mfrs. No.	DIMENSIONS, INCHES—			Nosing Opening Inches	Std. Pkg.	Price Each
199791	152	2	2 $\frac{3}{16}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1	\$25.00

Special resistance up to 20 ohms add to list \$1.00, 21 to 50 ohms add to list \$1.25, 51 to 75 ohms add to list \$1.50.



No. 152



## DOOR OPENERS AND LATCHES

## SCHEDULE E



No. 1542



No. 52

## No. 1541 MORTISE TYPE DOOR OPENERS

## Roller Nose

Face plate is extended to provide space for mortise for dead bolt. When ordering, a sketch or template must be furnished to show exact location of dead bolt and screw holes. If no sketch is sent no holes will be provided.

Trade No.	Mfrs. No.	— DIMENSIONS, INCHES —			Nosing Opening Inches	Face Plate Inches	Std. Pkg.	Price Each
		Width	Depth	Thickness				
199801	1541	2	3 $\frac{7}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$ x6 $\frac{3}{8}$	1	\$10.30

Price includes No. 79 Push out Spring. Finish, brass.

## No. 1542 MORTISE TYPE DOOR OPENERS

## Solid Nose

Excepting for the difference in the nose No. 1542 is the same as No. 1541.

Trade No.	Mfrs. No.	— DIMENSIONS, INCHES —			Nosing Opening Inches	Face Plate Inches	Std. Pkg.	Price Each
		Width	Depth	Thickness				
199802	1542	2	3 $\frac{7}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$ x6 $\frac{3}{8}$	1	\$9.25

Price includes No. 79 Pushout Spring. Finish, brass.

## No. 52 MORTISE TYPE DOOR OPENERS

## Solid Nose

The No. 52 Door Opener is used for sliding doors.

Trade No.	Mfrs. No.	— DIMENSIONS, INCHES —			Nosing Opening Inches	Face Plate Inches	Std. Pkg.	Price Each
		Width	Depth	Thickness				
199803	52	3 $\frac{1}{4}$	3 $\frac{1}{4}$	$\frac{7}{8}$	1 $\frac{1}{2}$ x $\frac{3}{4}$	1x4 $\frac{3}{4}$	1	\$38.00

Price includes No. 79 Pushout Spring. Finish, bronze.

## SPECIAL RESISTANCE

Special resistance up to 20 ohms add to list \$1.00, 21 to 50 ohms add to list \$1.25, 51 to 75 ohms add to list \$1.50.

## LATCHES

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
199804	239	For use with No. 52 Door Opener	1	\$3.50

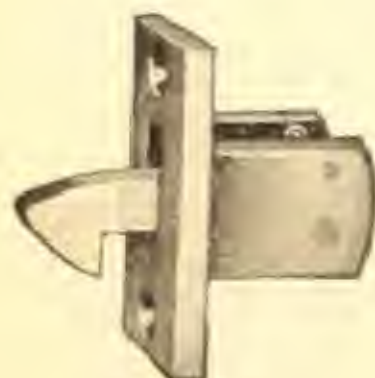
Finish, bronze.

## PUSHOUT SPRINGS

## For Use with Door Openers

For use with Edwards or any standard make door openers.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
199805	89	Mortise type. Phosphor bronze finish	100	\$0.50
199806	79	Fits $\frac{1}{2}$ -inch hole. No screws required	100	.60



No. 239



No. 89



No. 79



# EDWARDS BURGLAR ALARM ATTACHMENTS

## SCHEDULE E



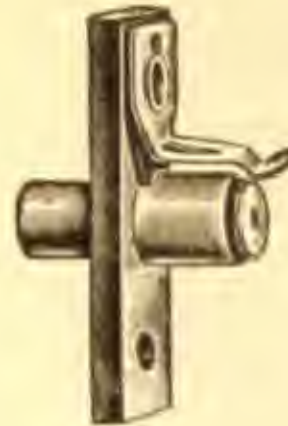
No. 28



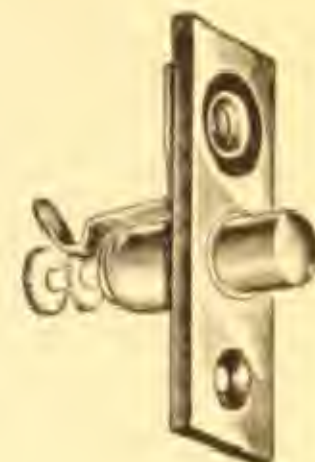
No. 30



No. 29



No. 34



No. 38

## WINDOW SPRINGS

Trade No.	Mfrs. No.	Description	Size of Plate Inches	Std. Pkg.	Price Each
091582	28	Open circuit	2 3/8 x 1 1/2	100	\$0.54
091584	30	Extra heavy	3 3/8 x 3/8	50	.85
091599	30	Extra heavy, closed circuit	3 3/8 x 5/8	50	1.03
091583	29	Double open circuit	1 1/2 x 1 3/4	25	.85



No. 39



No. 32

## DOOR SPRINGS

091574	34	Open circuit	2 x 5/8	100	.38
091576	38	Make and break	2 x 5/8	100	.46
091604	39	Closed circuit	2 x 5/8	50	.46

## TRANSOM SPRINGS

091580	32	For French or pivot windows	2 1/4 x 1		1.55
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## SAFE SPRINGS

091606	40	Fits 2-inch hole (price, with plate)	1 3/4 x 5/8	50	.70
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## DOOR TRIPS

May be used to ring bell automatically when door is opened. Is screwed to the frame of door. No contact while the door remains closed or open.

Trade No.	Mfrs. No.	Std. Pkg.	Price Each
091614	236	6	\$1.03



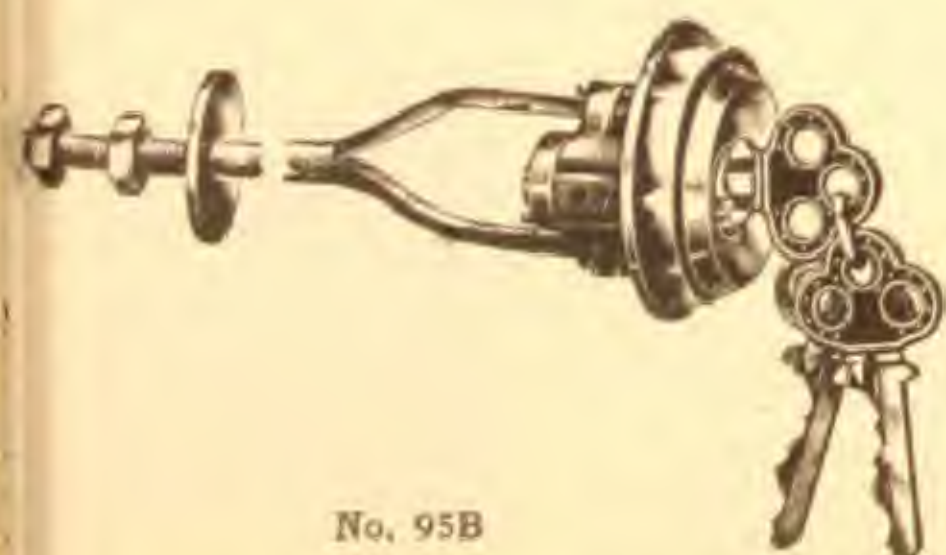
No. 40



No. 236

## LOCK BURGLAR ALARM SWITCHES

Placed on outside of door frame, so that when burglar alarm is set, persons having a key may enter without giving the alarm.



No. 95B

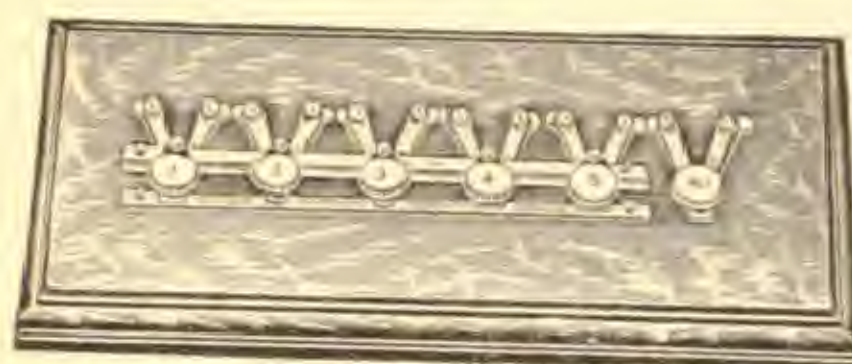
Trade No.	Mfrs. No.	Finish	Price Each
091588	95B	Polished brass or nickel	\$15.60



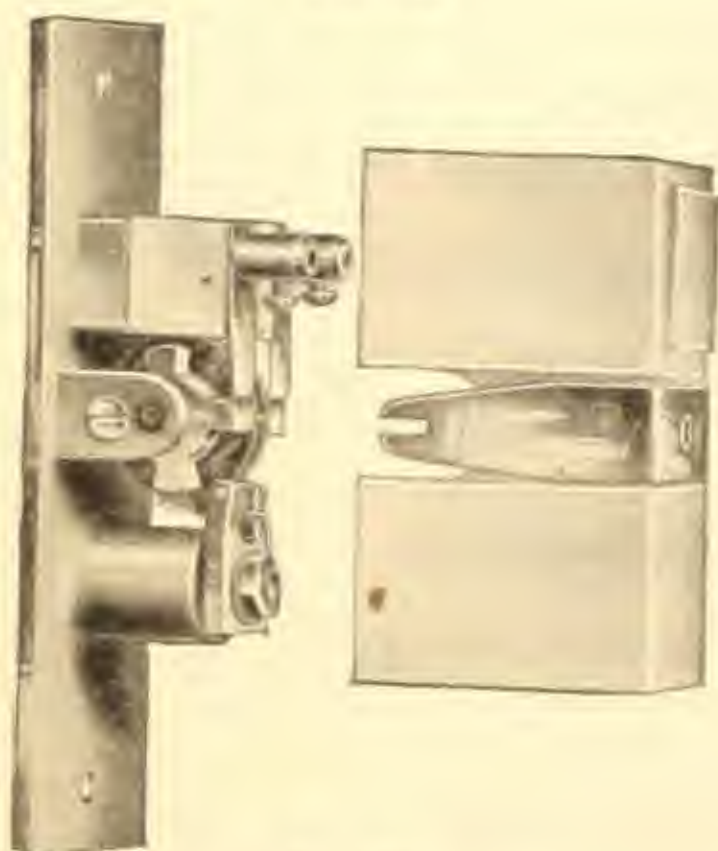
## SWITCHES



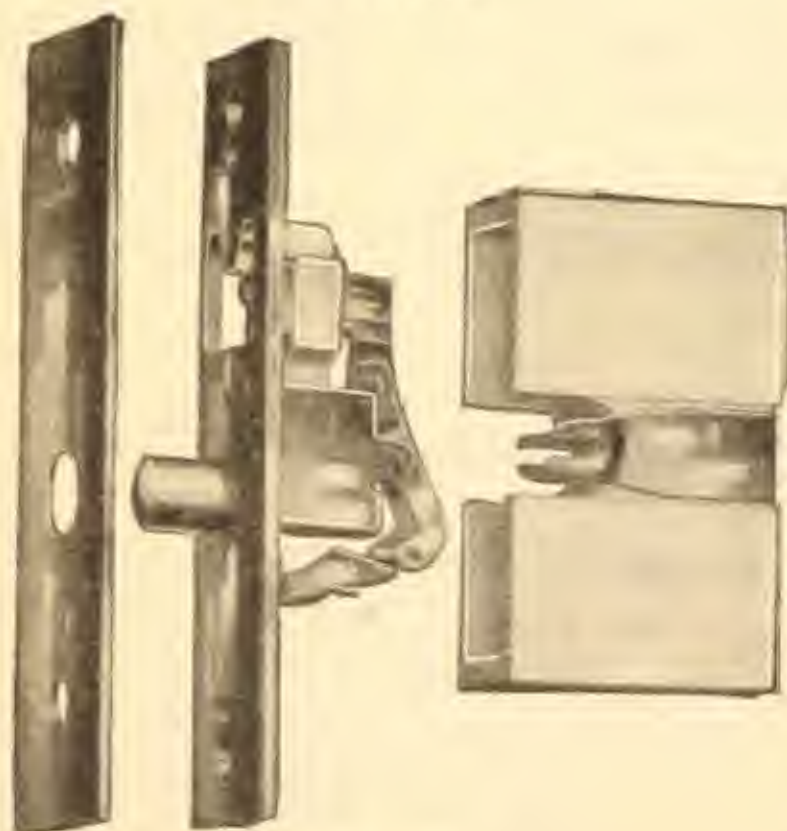
No. 167



No. 111



No. 174



No. 175

BATTERY SWITCHES  
SCHEDULE E

## No. 107

No. 167 Dial Switch is for selective or program ringing, where a number of bells are to be operated singly or all at once. To operate single bell the short arm is moved to the number and pressed. To ring all bells the long arm is moved to point marked "all" and pressed. Base, oak. Metal parts nickel.

Numbering on celluloid inlaid flush on base.

Trade No.	Mfrs. No.	No. of Points	Std. Pkg.	Price Each
202259	167	10	1	\$37.00

Additional points, each, \$3.70.

STRAP KEYBOARDS  
SCHEDULE T

## No. 111

Keys are very substantial and so made that the arm cannot be loosened or the points separated. Upper and lower contact furnished, unless otherwise specified. The all key is connected through upper contact bar with each key and when pressed rings all bells. Backboard recessed to allow wiring. Panel is oak, keys nickelled.

Trade No.	Mfrs. No.	Description	Price Each
202260	111	Four keys and "all" key	\$15.00
		Additional, per key	3.00
		Engraving on keys, per key	\$0.50

DOOR SWITCHES  
SCHEDULE E

## No. 174 Eco

No. 174 ECO is for use with telephone booths, bank vaults, closets, toilets and any places where lights are to be turned on and off automatically by the opening and closing of a door. Finish, polished brass. Operation: Door shut—light off; open door—light on; enter and close door—light on; open door for exit—light off; shut door—light stays off.

Trade No.	Mfrs. No.	Std. Pkg.	Price Each
202844	174	12	\$8.50

## No. 175A

Operation: door open, light on.

202845	175A	12	6.00
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## No. 175B

Operation: door closed, light on.

202846	175B	12	3.00
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CONDUIT BOXES  
No. 2000

Specially designed for the above.

Trade No.	Mfrs. No.	Std. Pkg.	Price Each
202847	2000	10	\$1.25



# BATTERY SWITCHES

## SCHEDULE E

### WOOD BASE SWITCHES

#### No. 102

Lever is held by spring washer insuring perfect contact. Finish, oak.



No. 102

Trade No.	Mfrs. No.	No. of Points	Std. Pkg.	Price Each
202862	102	1	25	\$0.64
202863	102	2	25	.88
Additional point up to 6 points, add per point				.23
Assortment of 25 to make 1 standard package.				



No. 104

#### No. 104—Crown Type

The No. 104 is single-pole double break with cupped contact arm which springs on points. Perfect contact. Finish, oak.

202860	104		25	.64
Assortment (to make one standard package) permitted with No. 164 below.				

### NICKELED BASE

#### No. 164—Crown Type

No. 164 is the same as above only with metal base. Finish, nickel. For brush brass add 20 cents each.



No. 164

202261	164		25	.64
Assortment (to make one standard package) permitted with No. 104 as shown above.				

### RUBBER BASE

#### No. 172—Keystone

No. 172 has hollow back. Metal parts are nickeled. Engraving on knob, 25 cents per letter. Engraving per letter or figure, list price, 25 cents.



No. 172

Trade No.	Mfrs. No.	No. of Points	Std. Pkg.	Price Each
202840	172	1	25	\$0.88
202262	172	2	25	.92
202263	172	3	25	1.24
Assortment of 25 to make 1 standard package.				

#### No. 178—Rectangular

Engraving on knob, 25 cents per letter. Engraving per letter or figure, list price, 25 cents. Metal parts nickel.



No. 178

202841	178	1	25	.88
203178	178	2	25	1.34
203179	178	3	25	1.56
203180	178	4	25	3.10
Assortment of 25 to make 1 standard package.				

### POLE CHANGING

#### No. 165

No. 165 can be furnished with more than two arms

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
202842	165		25	On application

#### No. 165B

203181	165B	Back connection	25	\$3.40
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#### No. 165F

203182	165F	Front Connection	25	4.70
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No. 165F

Assortment of 25 to make 1 standard package.



## EDWARDS WATCHMAN'S DETECTORS



No. 75 Magneto Type

## BATTERY AND MAGNETO TYPES WITH AND WITHOUT TIME PIECES

Edwards Watchman's Time Detectors record accurately and indelibly (by puncture of a paper dial) every visit of the watchman to each station and the time of the visit.

The Magneto Type is approved by the National Board of Fire Underwriters also for factories covered by Associated Factory Mutual Fire Insurance Companies. Battery type is not approved irrespective of make.

Insurance rates are materially reduced by the installation of a Watchman's Time Detector.

OPERATION. — A paper dial, which revolves with the clock movement is placed on a metal disc in front of the clock each day and is set so that the hour and minute of the time of insertion is over the indicating point.

At each station placed along the watchman's route he turns the magneto handle (or presses a button if it is a battery type) and generates current for operation of the corresponding indicator in the clock, which records in its section on the dial.

EXAMPLE. — The watchman operates Station No. 3 at 7:30 o'clock. The point on the dial marked 7:30 is directly in front of the indicating point and indicator No. 3 strikes making a perforation in the corresponding section so marked on the dial.

## SCHEDULE T

## MAGNETO TYPE NO. 75—WITH TIME PIECE

Trade No.	No. of Stations	DIMENSIONS, INCHES			Price Each	Trade No.	No. of Stations	DIMENSIONS, INCHES			Price Each
		Height	Width	Depth				Height	Width	Depth	
170087	4	31 $\frac{3}{4}$	17 $\frac{1}{2}$	5 $\frac{1}{2}$	\$280.00	170091	12	31 $\frac{3}{4}$	17 $\frac{1}{2}$	5 $\frac{1}{2}$	\$345.00
170088	6	31 $\frac{3}{4}$	17 $\frac{1}{2}$	5 $\frac{1}{2}$	290.00	170092	15	31 $\frac{3}{4}$	17 $\frac{1}{2}$	5 $\frac{1}{2}$	360.00
170089	8	31 $\frac{3}{4}$	17 $\frac{1}{2}$	5 $\frac{1}{2}$	305.00	170093	20	35 $\frac{1}{2}$	21 $\frac{1}{4}$	5 $\frac{1}{2}$	390.00
170090	10	31 $\frac{3}{4}$	17 $\frac{1}{2}$	5 $\frac{1}{2}$	315.00	170094	25	35 $\frac{1}{2}$	21 $\frac{1}{4}$	5 $\frac{1}{2}$	425.00

Extra stations, per station up to 50, list \$12.00 Where more than 25 stations are required, 2 recording dials will be used. Standard finish, oak. For white enamel, add to list \$15.00. Prices include a year's supply of dials, but do not include magneto or battery stations.

## MAGNETO TYPE NO. 76—WITHOUT TIME PIECE



No. 76 Magneto Type

Trade No.	No. of Stations	DIMENSIONS, INCHES			Price Each
		Height	Width	Depth	
170095	4	18	17 $\frac{1}{2}$	5 $\frac{1}{2}$	\$155.00
170096	6	18	17 $\frac{1}{2}$	5 $\frac{1}{2}$	167.00
170097	8	18	17 $\frac{1}{2}$	5 $\frac{1}{2}$	185.00
170098	10	18	17 $\frac{1}{2}$	5 $\frac{1}{2}$	200.00
170099	12	18	17 $\frac{1}{2}$	5 $\frac{1}{2}$	235.00
170100	15	18	17 $\frac{1}{2}$	5 $\frac{1}{2}$	255.00
170117	20	18	17 $\frac{1}{2}$	5 $\frac{1}{2}$	295.00
170118	25	18	17 $\frac{1}{2}$	5 $\frac{1}{2}$	335.00

Extra stations, per station, list \$10.00. Where more than 25 stations are required, 2 recording dials will be used. Standard finish, oak. For white enamel add to list \$15.00.

Prices include a years supply of dials but do not include battery or magneto stations.

## BATTERY TYPE NO. 97—WITH TIME PIECE

Same prices and dimensions as No. 75 above.

## BATTERY TYPE NO. 98—WITHOUT TIME PIECE

Same prices and dimensions as No. 76 above.

## Installation

Use wire approved by the National Board of Fire Underwriters and install according to their rules.

One common wire is carried from the clock to all stations and one wire from each station to the binding post in the clock correspondingly marked.



**EDWARDS MAGNETO STATIONS**  
SCHEDULE T  
FOR USE WITH No. 75 AND 76 TIME DETECTORS

Approved By the National Board of Fire Underwriters



No. 161

**WOOD CASE No. 161**

Trade No.	Description	Price Each
172154	Hand generator with removable handle. One key furnished with each three stations. keys each, \$1.60.	\$18.85 Extra

**PORTABLE TYPE No. 161**

Trade No.	Description	Price Each
172155	Complete with carrying strap, No. 72 plug and 3 feet of cord.	\$28.25



No. 162

**METAL CASE No. 162**

Trade No.	Description	Price Each
172156	Weatherproof for outdoor use. Hand generator with removable handle.	\$21.95

**FLUSH TYPE No. 163**

Trade No.	Description	Price Each
172157	Metal case. Hand generator with remov- able handle.	\$28.25



No. 163

**BATTERY KEY STATIONS**

For Use With Nos. 97 and 98 Time Detectors

Trade No.	Mfrs. No.	Description	Price Each
172158	211	Flush type, mounted on plate to fit a standard push button switch box.	\$8.00
172159	211A	Surface type, plate 2 3/4 inches diameter.	5.00
172163		Key only for above.	1.00
172160		Finish: Nickel plate standard. Old brass or polished brass furnished if specified.	

**PAPER DIALS**

For All Types of Watchman's Time Detectors Listed Above

Trade No.	Description	Price per 1000
172164	1 to 10 stations.	\$29.50
172165	11 to 15 stations.	35.00
172166	16 to 20 stations.	44.00
172167	21 to 25 stations.	46.50

Facts Regarding the Efficiency of Edwards' Time Detectors

A record cannot be made unless the watchman has visited the station.

The record cannot be changed because it is a puncture on a paper dial.

A special device registers each opening and closing of the clock door, which further prevents any tampering with the record.

A cutout is provided on the battery type so that the paper dial cannot be torn by prolonged contact.

All wire connections are soldered to insure a perfect lasting contact.

Connectors are all plainly marked to facilitate installation and test.



No. 211



Dial



## FARADAY SPECIAL RESISTANCE WINDINGS

## SCHEDULE R

FOR FARADAY AND EKLA SKELETON AND ENCLOSED-TYPE BELLS  
AND BUZZERS

List additions shown below apply to Faraday Skeleton, Ekla Skeleton, Faraday Enclosed-type Gongs, Faraday Under-dome Gongs, Faraday Double-gong Bells, Faraday Electro-mechanical Gongs and Faraday Buzzers for use on battery and D. C. circuits. They do not apply to A. C. Special resistance list-additions as shown below cannot be included with list prices of gongs and buzzers to make up quantity.

Regular resistance vibrating bells will operate satisfactorily on battery and D. C. circuits at the voltage shown in tables listing various types of bells on other pages, but where gongs are to be operated on higher voltage circuits or where a number of gongs are to be operated simultaneously in multiple on a circuit, gongs wound to proper higher resistance must be used.

For D. C. light and power circuits, as well as lower D. C. voltages, data given in table at bottom of page should be used, this table showing approximate ohms resistance for vibrating bells for various D. C. voltages.

To operate on low voltage battery, single-stroke gongs are best wired in multiple. Figure resistance by the following formula:  $R = E^2 \div 20$ .

Faraday Enclosed-type Vibrating Gongs will be furnished, when ordered, wound to 150 ohms to operate direct in multiple with an external resistance on 600 volts D. C. street railway circuits. 600-volt gongs should be used with five 60-watt lamps, connected as per blue print attached to each 600-volt gong.

Resistances of transformer gongs for A. C. circuits are entirely arbitrary and cannot be figured on the same basis as shown below for D. C. circuits.

For A. C. circuits, transformer single-gong bells, transformer under-dome gongs or transformer double-gong bells should invariably be used. All Faraday Transformer Gongs, single-gong pattern, have carbon contacts. Double-gong bells may be connected in series (when wound to proper resistance for this work) and when so connected, the total number of gongs on the circuit requires no more current than one gong would require in multiple.

Triplex contacts will be furnished, when specially ordered, at slight additional cost on all Faraday Vibrating Gongs and Buzzers, except the smallest size on No. 00 frames. Triplex contacts are a guarantee against the failure of a signal gong, for with three independent sets of contacts, one set may break down or even two sets without causing the failure of the gong.

Pure platinum is the most dependable for gong contacts, but where price of platinum seems prohibitive, platinoid will be found satisfactory.

Single-stroke and electro-mechanical gongs have no contacts.

Resistance of single-stroke gongs is approximately one-fourth that of vibrating gongs when designed for operation on similar voltages.

Ohms Resistance for Operation of Faraday Vibrating Gongs on Direct Current Voltages  
Without Excessive Sparking at Contacts

Ohms Resistance per Bell	Adapted to Operate on Following Direct Current Voltages	Ohms Resistance per Bell	Adapted to Operate on Following Direct Current Voltages	Ohms Resistance per Bell	Adapted to Operate on Following Direct Current Voltages
5	6-10	200	35-45	500	105-110
10	10-15	250	45-55	550	110-120
20	15-20	300	55-65	1000	120-130
50	20-25	350	65-80	2000	220-240
100	25-30	400	80-95	*150	500-600
150	30-35	450	95-105	†1000	500-600

\*To operate with resistance panel or bank of five 60-watt lamps.

†To operate with Faraday resistance panel.

## Special Resistance Winding List, Additional per Gong

		Ohms Resistance per Pair Magnets											
Size, In. Up to 4-mch Incl. and Buzzers		0-10	11-20	21-50	51-100	101-150	151-200	201-300	301-500	501-1000	1001-1500	1501-2000	
		\$3.05	\$3.75	\$4.55	\$5.80	\$7.00	\$8.30	\$9.50	\$10.80	\$13.25	\$15.80	\$18.25	
5 and 6		4.65	5.45	6.15	7.45	9.90	11.20	12.45	13.65	16.20	18.50	21.25	
8		6.25	7.15	8.00	9.30	10.55	11.90	13.25	14.70	18.45	21.50	25.00	
10, 12, 14		8.15	9.00	9.95	11.15	12.45	13.75	16.20	19.40	21.90	28.15	35.60	
16 and 18		15.15	22.90	31.50	32.50	33.50	34.50	35.40	36.50	37.40	38.65	57.95	



# FARADAY SKELETON BELLS

## SCHEDULE E

### MODEL O, VIBRATING TYPE FOR BATTERY CIRCUITS

CANNOT BE USED ON A. C. CIRCUITS

#### Decisive Points of Superiority

**HIGH-POWER ARMATURE.**—Patented high-power armature allows the keeping of armature in magnetic field up to the moment of striking the gong—twice the power of any other skeleton mechanism made.

**BREAKAGE OF SPRINGS CANNOT DISABLE BELL.**

**INSULATED MECHANISM.**—Frame of bell carries no current at any time, as entire electrical mechanism is insulated from frame casting. Bells may be mounted on metal without fear of grounding.

**SOLID BACK.**—Solid back prevent dampness from getting into installation washers on back of bell, or affecting magnet windings. All installation washers sealed in with waterproof wax.

**LOCKING SIDE-CONTACT POST.**—The patented split-section side-contact post compresses both sections against thread of contact screw and positively locks with cone-cap-piece having taper thread; no injuring of screw thread, and adjusting to a thousandth of inch assured at all times.

**SOLID TRUNNION FRAME.**—Solid trunnion frame cannot work loose or move in any direction. Improved split-section, replacing old locknut on trunnion frame, compresses against upper trunnion screw, and no amount of jarring can loosen the upper bearing.

**CYLINDRICAL TRUNNION BEARINGS, EXTRA HEAVY CYLINDRICAL TYPE.**—There is no possibility of armature breaking away from either upper or lower bearing, as in other makes; construction utilizes full strength of both upper and lower trunnion frame casting.

**NON-TURNING CONTACT AND BINDING POSTS.**—Non-turning and non-loosening binding posts equipped with split steel lock-washers prevent connections from ever jarring loose.

**CONTACT POINTS.**—Contact points are made of platinoid or pure platinum, as specified, and are always plainly marked on both screw and spring. Platinoid contacts furnished, unless otherwise specified.

Skeleton Faraday Bells, listed below, are designed to operate on battery circuits only. For bell-ringing transformer circuits, transformer enclosed type single-gong bells, transformer enclosed type double-gong bells, or transformer underdome gongs are recommended.

Skeleton Faraday Bells will be furnished single stroke when specially ordered at \$2.50 net additional, but for important single-stroke work, special single-stroke gongs are recommended.

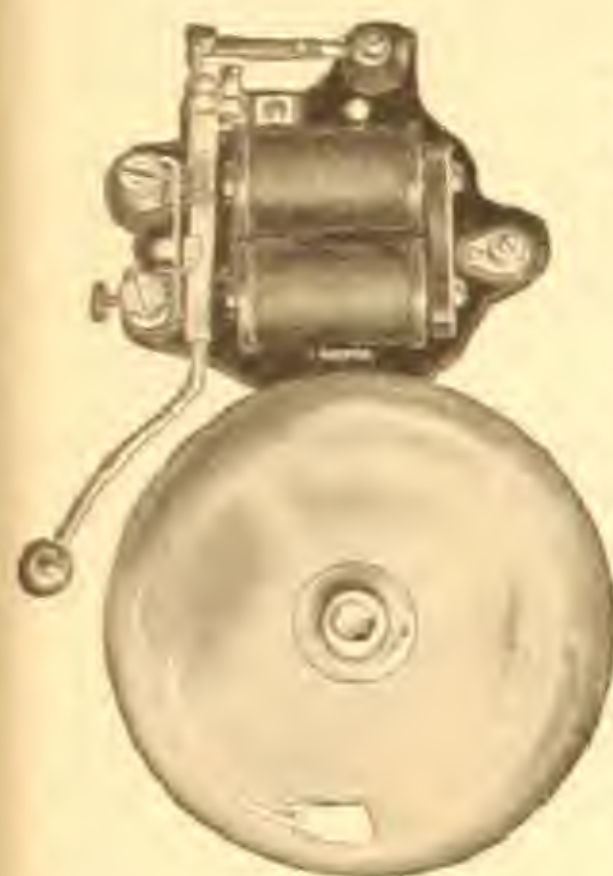
Skeleton Faraday Bells will be wound to any special resistance desired at standard list additions shown elsewhere.

**NOTE.**—The Underwriters' Laboratories approve only the enclosed-type Faraday and PR Giant Mario Gongs for signal systems coming under their supervision.

Trade No.	Mfrs. No.	Size, Gong Inches	Frame No.	Resistance in Ohms	Std. Pkg.	Price Each
071001	0- 2½	2½	1	3.2	8	\$5.70
071002	0- 3	3	1	3.2	8	6.05
071003	0- 4	4	1	3.2	8	7.10
071004	0- 5	5	2	4	8	9.35
071005	0- 6	6	2	4	12	10.55
071007	0- 8	8	3	5	6	16.00
071008	0-10	10	4	5	4	24.85
071009	0-12	12	X-5	5	4	31.00
071010	0-14	14	X-5	5	2	62.00
071011	0-16	16	6	8	1	123.70
78219	0-18	18	6	8	1	143.25

**PLATINUM CONTACTS.**—Add to above prices for pure platinum contacts \$1.90 net for bells up to and including 6-inch; \$2.50 net for 7-inch and larger.

**TRIPLEX CONTACTS.**—Add to above prices for triplex platinoid contacts up to and including 6-inch, \$3.75 net; gongs 8 and 10-inch, \$4.40; 12 and 14-inch, \$5.00; 16 and larger, \$6.25. For triplex pure platinum contacts add to the above prices the following: up to and including 6-inch, \$5.60 net; 8 and 10 inch, \$7.50 net; 12 and 14-inch, \$9.40 net; 16-inch and larger, \$11.25 net.





## FARADAY CONDUIT PATTERN SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

## SCHEDULE E

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D. C. CIRCUITS

CANNOT BE USED ON A. C. CIRCUITS

Faraday Conduit Pattern Signal Gongs Models AP, BP and CP are furnished with heavy pressed steel outlet box backs. Combination  $\frac{3}{4}$ -inch and  $\frac{1}{4}$ -inch knockouts are provided on the four sides of the box as well as in the center of the back, readily affording conduit connections to it. They are designed to meet requirements of exposed or concealed work.

They are designed to operate on battery and when ordered wound to proper resistance, on D.C. electric light and power circuits from 100 to 600 volts. For A.C. circuits, both bell ringing transformer and 100-240-volt A.C. circuits, transformer enclosed-type single-gong, transformer enclosed-type double-gong or transformer underdome gongs are recommended.

These gongs will be furnished single-stroke when specially ordered at \$2.50 net additional. They will be furnished wound to any special resistance at standard list additions.



Model AP

## Model AP Non-guarded Gongs, 4 to 18 Inches

Model No.	Size Inches	Frame No.	Std. Pkg.	No. of Dry Cells Required	Oper. Voltage	Regular Resistance Ohms	Price Each	TO OPERATE ON BATTERY Gongs to be Wired in Multiple	
								100 to 110 V. D. C.	220 to 250 V. D. C.
								Price Each*	Price Each†
AP-4	4	1	6	3	3	3 2	\$19 30	\$27 55	\$35 75
AP-5	5	2	6	4	4	4	25 90	38 00	50 10
AP-6	6	2	6	4	4	4	27 90	40 60	53 35
AP-8	8	3	4	5	5	5	34 35	49 30	64 25
AP-10	10	4	2	6	6	5	49 30	67 25	85 20
AP-12	12	X-5	2	6	6	5	65 25	83 20	101 15
AP-14	14	X-5	2	6	6	5	95 20	116 15	137 10
AP-16	16	6	1	8	8	8	153 95	183 85	213 80
AP-18	18	6	1	8	8	8	171 60	201 50	231 45



Model BP

## Model BP Half-grid-guarded Gongs, 4 to 14 Inches

Model No.	Size Inches	Frame No.	Std. Pkg.	No. of Dry Cells Required	Oper. Voltage	Regular Resistance Ohms	Price Each	100 to 110 V. D. C. Price Each*	220 to 250 V. D. C. Price Each†
BP-4	4	1	6	3	3	3 2	26 05	34 25	42 50
BP-5	5	2	6	4	4	4	33 05	45 20	57 30
BP-6	6	2	6	4	4	4	35 10	47 80	60 50
BP-8	8	3	4	5	5	5	44 05	59 00	74 00
BP-10	10	4	2	6	6	5	62 00	79 95	97 90
BP-12	12	X-5	2	6	6	5	82 45	100 40	118 35
BP-14	14	X-5	2	6	6	5	119 90	140 85	161 80

## Model CP Full-grid-guarded Gongs, 5 to 12 Inches

Model No.	Size Inches	Frame No.	Std. Pkg.	No. of Dry Cells Required	Oper. Voltage	Regular Resistance Ohms	Price Each	100 to 110 V. D. C. Price Each*	220 to 250 V. D. C. Price Each†
CP-4	4	1	6	3	3	3 2	37 25	45 45	53 65
CP-5	5	2	6	4	4	4	46 80	58 95	71 05
CP-6	6	2	6	4	4	4	48 85	61 55	74 30
CP-8	8	3	4	5	5	5	60 50	75 45	90 45
CP-10	10	4	2	6	6	5	82 20	100 15	118 10
CP-12	12	X-5	2	6	6	5	107 10	125 05	143 00
CP-14	14	X-5	2	6	6	5	147 55	168 50	189 45

\*To operate on 100-125 V. D. C. circuits, resistance 500 ohms.

†To operate on 220-250 V. D. C. circuits, resistance 2000 ohms.

In ordering specify Model No. and voltage at which to operate.

PLATINUM CONTACTS.—Add to above prices for pure platinum contacts \$1.90 net for bells up to and including 6-inch; \$2.50 net for 8-inch and larger.

TRIPLEX CONTACTS.—Add to above prices for triplex platinoid contacts \$3.75 net for bells up to and including 6-inch; 8 and 10-inch, \$4.40 net; 12 and 14-inch, \$5.00 net; 16-inch and larger, \$6.25 net; for triplex pure platinum contacts add to above prices the following: up to and including 6-inch, \$5.60 net; 8 and 10-inch \$7.50 net; 12 and 14-inch, \$9.40 net; 16-inch and larger \$11.25 net.



Model CP



# FARADAY SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE E

ENCLOSED-TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D. C. CIRCUITS

CANNOT BE USED ON A. C. CIRCUITS

Faraday Enclosed-type Signal Gongs A, B and C are far superior to the ordinary open-type skeleton bell and are recommended for installations exposed to dust, dampness or mechanical injury. They are designed to operate on battery and, when ordered wound to proper resistance, on D.C. electric light and power circuits from 100 to 600 volts. For A.C. circuits, both bell-ringing transformer and 100-240-volt A.C. circuits, transformer enclosed-type single-gong, transformer enclosed-type double-gong or transformer underdome gongs are recommended.

These gongs will be furnished single-stroke when specially ordered at \$2.50 net additional. They will be furnished wound to any special resistance at standard list additions.



Model A



Model B



Model C

## Model A Non-guarded Gongs, 1 3/4 to 18 Inches

TO OPERATE ON BATTERY							100 to	220 to	
GONGS TO BE WIRED IN MULTIPLE							125-v.	250-v.	
Model No.	Size In.	Frame No.	Std. Pkg.	No. of Oper- Regular		Price Each	*Price	†Price	
				Dry Cells	active Resistance		Each	Each	
				Req'd Voltage	Ohms				
A- 1 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	00	6	2	2	3	\$6.60	Not Made	Not Made
A- 2	2	00	6	2	2	3	7.25	Not Made	Not Made
A- 2 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	0	6	2	2	2	7.80	Not Made	Not Made
A- 3	3	0	6	2	2	2	8.85	Not Made	Not Made
A- 4	4	1	6	3	3	3.2	10.85	19.05	27.30
A- 5	5	2	6	4	4	4	15.80	27.90	40.00
A- 6	6	2	6	4	4	4	17.80	30.50	43.25
A- 8	8	3	4	5	5	5	22.00	36.95	51.90
A-10	10	4	2	6	6	5	36.95	54.90	72.85
A-12	12	X-5	2	6	6	5	49.90	67.80	85.80
A-14	14	X-5	2	6	6	5	76.50	97.45	118.40
A-16	16	6	1	8	8	8	129.25	159.15	189.10
A-18	18	6	1	8	8	8	146.90	176.85	206.75

## Model B Half-grid-guarded Gongs, 4 to 14 Inches

B- 4	4	1	6	3	3	3.2	17.60	25.80	34.05
B- 5	5	2	6	4	4	4	22.95	35.10	47.20
B- 6	6	2	6	4	4	4	25.00	37.70	50.40
B- 8	8	3	4	5	5	5	31.70	46.70	61.60
B-10	10	4	2	6	6	5	49.65	67.60	85.55
B-12	12	X-5	2	6	6	5	67.10	85.05	103.00
B-14	14	X-5	2	6	6	5	101.20	122.15	143.10

## Model C Full-grid-guarded Gongs, 4 to 12 Inches

C- 4	4	1	6	3	3	3.2	28.80	37.00	45.20
C- 5	5	2	6	4	4	4	36.75	48.85	60.95
C- 6	6	2	6	4	4	4	38.75	51.45	64.20
C- 8	8	3	4	5	5	5	48.15	63.15	78.10
C-10	10	4	2	6	6	5	69.85	87.80	105.75
C-12	12	X-5	2	6	6	5	91.80	107.75	127.70
C-14	14	X-5	2	6	6	5	128.85	149.80	170.75

\*To operate on 100-125-v. D.C. circuits, resistance 500 ohms.

†To operate on 220-250-v. D.C. circuits, resistance 2000 ohms.

In ordering specify Model No. and voltage.

PLATINUM CONTACTS.—Add to above prices for pure platinum contacts \$1.90 net for bells up to and including 6-inch; \$2.50 net for 8-inch and larger.

TRIPLEX CONTACTS.—Add to above prices for triplex platinoid contacts \$3.75 net for bells up to and including 6-inch; 8 and 10-inch, \$4.40 net; 12 and 14-inch, \$5.00 net; 16-inch and larger, \$6.25 net; for triplex pure platinum contacts, add to above prices the following: up to and including 6-inch, \$5.60 net; 8 and 10-inch, \$7.50 net; 12 and 14-inch, \$9.40 net; 16-inch and larger, \$11.25 net.

All gongs furnished Bauer-Barff.



## FARADAY INSPECTORS' PATTERN SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

## SCHEDULE E

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D. C. CIRCUITS  
CANNOT BE USED ON A. C. CIRCUITS

Model AI



Model BI



Model CI

Faraday Inspectors' Type Gongs Models AI, BI and CI are especially designed to permit regular and frequent inspection of signal equipment.

For A. C. circuits (both bell ringing transformer and 100-240-volt A. C. circuits) transformer enclosed type single-gong, transformer enclosed type double-gong or transformer under-dome gongs are recommended.

These gongs will be furnished single-stroke when specially ordered at \$2.50 net additional. They will be furnished wound to any special resistance desired at standard list additions.

## Model AI Non-guarded Gongs 4 to 18 Inches

Model No.	Size In.	Frame No.	Std. Pkg.	—TO OPERATE ON BATTERY— Gongs to be Wired in Multiple				TO OPERATE ON 100-125 V. D. C. CIRCUITS		TO OPERATE ON 220-250 W. D. C. CIRCUITS		Add. for Conduit Pattern*
				No. of Dry Cells Req'd	Op'tive Voltage	Resistance Ohms	Price Each	Resistance Ohms	Price Each	Resistance Ohms	Price Each	
AI- 4	4	1	6	3	3	3 2	\$24 75	500	\$35 10	2000	\$45 35	\$10 55
AI- 5	5	2	6	4	4	4	33 75	500	48 90	2000	64 05	12 65
AI- 6	6	2	6	4	4	4	36 30	500	52 20	2000	68 05	12 65
AI- 8	8	3	4	5	5	5	44 40	500	63 05	2000	81 75	15 40
AI-10	10	4	2	6	6	5	65 80	500	88 25	2000	110 70	15 40
AI-12	12	X-5	2	6	6	5	82 00	500	104 40	2000	126 85	19 15
AI-14	14	X-5	2	6	6	5	115 25	500	141 45	2000	167 65	23 40
AI-16	16	6	1	8	8	8	195 25	500	232 25	2000	270 05	30 90
AI-18	18	6	1	8	8	8	217 30	500	254 70	2000	292 10	30 90

## Model BI Half-grid Guarded Gongs, 4 to 14 Inches

Model No.	Size In.	Frame No.	Std. Pkg.	No. of Dry Cells Req'd	Op'tive Voltage	Resistance Ohms	Price Each	Resistance Ohms	Price Each	Resistance Ohms	Price Each	Add. for Conduit Pattern*
BI-4	4	1	6	3	3	3 2	33.20	500	43.45	2000	53.80	10.55
BI-5	5	2	6	4	4	4	42.70	500	57.90	2000	73.00	12.65
BI-6	6	2	6	4	4	4	45.25	500	61.20	2000	77.05	12.65
BI-8	8	3	4	5	5	5	56.45	500	75.15	2000	93.85	15.40
BI-10	10	4	2	6	6	5	81.75	500	104.20	2000	126.65	15.40
BI-12	12	X-5	2	6	6	5	103.50	500	125.95	2000	148.40	19.15
BI-14	14	X-5	2	6	6	5	146.15	600	172.35	2000	198.50	23.40

## Model CI Full-grid Guarded Gongs, 5 to 12 Inches

Model No.	Size In.	Frame No.	Std. Pkg.	No. of Dry Cells Req'd	Op'tive Voltage	Resistance Ohms	Price Each	Resistance Ohms	Price Each	Resistance Ohms	Price Each	Add. for Conduit Pattern*
CI-4	4	1	6	3	3	3 2	47.20	500	57.55	2000	67.90	10.55
CI-5	5	2	6	4	4	4	59.90	500	75.10	2000	90.20	12.65
CI-6	6	2	6	4	4	4	62.45	500	78.40	2000	94.25	12.65
CI-8	8	3	4	5	5	5	77.05	500	95.75	2000	114.45	15.40
CI-10	10	4	2	6	6	5	106.95	500	129.40	2000	151.85	15.40
CI-12	12	X-5	2	6	6	5	134.25	500	156.80	2000	179.20	19.15
CI-14	14	X-5	2	6	6	5	180.70	500	201.65	2000	222.60	23.40

\*For conduit pattern add the letter P to Model No. and add to lists in previous columns.  
In ordering specify Model No. and voltage at which to operate.

All gongs furnished Bauer-Barff.

Additions for platinum and triplex contacts given in footnote on preceding page.



# FARADAY SCREEN GUARDED GONGS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE E

ENCLOSED TYPE, VIBRATING WEATHERPROOF, FOR BATTERY  
AND D. C. CIRCUITS

CANNOT BE USED ON A. C. CIRCUITS



Model CW  
Regular Pattern



Model CWP  
Conduit Pattern

Screen Guarded Enclosed Type Gongs Models CW and CWP are preferable to the cast grid type housing of Models C and CP in some cases, where mechanism, gong, hammer rod and ball must be protected against external injury, boys throwing stones and nesting of birds.

These gongs have high power armatures, making it possible to keep the armature in magnetic field up to the moment hammer rod ball strikes gong in place of opening at contact points at beginning of stroke as all other mechanisms do; breakage of springs cannot disable gong; frame casting carries no current at any time and as the entire mechanism is insulated from the frame, these gongs may be mounted on metal, metal lathing and damp walls without fear of rounding.

They are designed to operate on battery, and, when ordered wound to proper resistance, on D. C. electric light and power circuit, from 100 to 500 volts. For A. C. circuits, both bell ringing transformer and 100-240 A. C. circuits, transformer enclosed-type single-gong, transformer enclosed-type double-gong or transformer under-dome gongs are recommended.

These gongs will be furnished single stroke when specially ordered at \$2.00 net additional. For important single-stroke work, the special single-stroke Faraday Gongs shown on other pages are recommended, and the slight advance in cost found more than justified.

These gongs will be wound to any special resistance desired at standard list additions shown elsewhere.

The Underwriters' Laboratories approve enclosed type Faraday Gongs, Models CW and CWP for signal systems coming under their supervision.

Model CW Regular Pattern					Model CWP Conduit Pattern			
Gong Inches	Frame No.	Resistance Ohms	Model No.	Std. Pkg.	Price Each	Model No.	Std. Pkg.	Price Each
5	2	4	CW- 5	6	\$74.00	CWP- 5	6	\$86.60
6	2	4	CW- 6	6	76.50	CWP- 6	6	89.10
8	3	5	CW- 8	6	93.00	CWP- 8	6	108.40
10	4	5	CW-10	4	124.75	CWP-10	4	140.20
12	X-5	5	CW-12	4	152.15	CWP-12	4	171.30
14	X-5	5	CW-14	2	215.40	CWP-14	2	238.80

PLATINUM CONTACTS.—Add to above prices for pure platinum contacts \$1.90 net for bells up to and including 6-inch; \$2.50 net for 8-inch and larger.

TRIPLEX CONTACTS.—Add to above prices for triplex platinoïd contacts up to and including 6-inch, \$3.75 net; 8 and 10-inch, \$4.40; 12 and 14-inch, \$5.00. For triplex pure platinum contacts add to the above prices the following: up to and including 6-inch, \$5.60 net; 8 and 10-inch, \$7.50; 12 and 14-inch, \$9.40 net.



## FARADAY SINGLE-STROKE SIGNAL GONGS

## SCHEDULE T

ENCLOSED AND SKELETON TYPES, FOR BATTERY AND D. C. CIRCUITS  
CANNOT BE USED ON A. C. CIRCUITS

## SINGLE-STROKE GONGS—ENCLOSED TYPE

Single-stroke enclosed type gongs Models AS, BS and CS are the most powerful and longest movement single-stroke gongs made.

Semi-flexible recoil type hammer rod guarantees a clear, unmuffled blow on gong with never a double stroke possible.

Single-stroke gongs operate best connected in series.



Model AS



Model BS



Model CS



Model OS

Size Gong In.	Frame No.	Resist. Ohms	Model AS Non-guarded Gong		Model BS Half-grid Guarded Gong		Model CS Full-grid Guarded Gong	
			Model No.	Price Each	Model No.	Price Each	Model No.	Price Each
4	1	3.2	AS-4	\$18.35	BS-4	\$25.05	CS-4	\$36.15
5	2	4	AS-5	24.75	BS-5	31.95	CS-5	45.75
6	2	4	AS-6	26.80	BS-6	33.95	CS-6	47.75
8	3	5	AS-8	33.20	BS-8	42.95	CS-8	59.40
10	4	5	AS-10	54.90	BS-10	67.60	CS-10	88.10
12	X-5	5	AS-12	70.85	BS-12	88.05	CS-12	112.70
14	X-5	5	AS-14	97.45	BS-14	122.15	CS-14	149.80
16	6	8	AS-16	159.15				
18	6	8	AS-18	176.85				

Standard package, 1.

## TWO-SIGNAL COMBINATION SINGLE-STROKE AND VIBRATING GONGS

Two-signal gongs Models AVS, BVS, and CVS are combination mechanisms and should be connected to a three-wire circuit in multiple. When so connected, these gongs will give: (a) a powerful vibrating; (b) a clean, powerful single-stroke signal.

Size Gong In.	Frame No.	Resist. Ohms	Model AVS Non-guarded Gong		Model BVS Half-grid Guarded Gong		Model CVS Full-grid Guarded Gong	
			Model No.	Price Each	Model No.	Price Each	Model No.	Price Each
4	1	3.2	AVS-4	\$36.95	BVS-4	\$45.35	CVS-4	\$59.40
5	2	4	AVS-5	47.80	BVS-5	56.75	CVS-5	74.00
6	2	4	AVS-6	50.35	BVS-6	59.30	CVS-6	76.50
8	3	5	AVS-8	62.55	BVS-8	74.75	CVS-8	95.20
10	4	5	AVS-10	96.70	BVS-10	112.55	CVS-10	137.85
12	X-5	5	AVS-12	116.60	BVS-12	138.10	CVS-12	168.95
14	X-5	5	AVS-14	149.90	BVS-14	180.70	CVS-14	215.35
16	6	8	AVS-16	241.10				
18	6	8	AVS-18	263.15				

Standard package, 1.

## SINGLE-STROKE GONGS—SKELETON TYPE

Single-stroke skeleton type Model OS are not recommended except where limitation of expense is controlling factor.

Model No.	Size, Gong Inches	Frame No.	Resist. Ohms	Price Each	Model No.	Size, Gong Inches	Frame No.	Resist. Ohms	Price Each
OS-4	4	1	3.2	\$14.60	OS-10	10	4	5	\$42.80
OS-5	5	2	4	18.30	OS-12	12	X-5	5	52.00
OS-6	6	2	4	19.35	OS-14	14	X-5	5	82.95
OS-8	8	3	5	27.25					

Standard package, 1.

All above bells except skeleton types furnished with outlet box backs for conduit work at same list additions as shown on page listing Double-gong Bells for respective sizes.

Gongs shown on this page cannot be used on A. C. circuits. For code signaling on A. C. circuits, electro-mechanical gongs or high-speed vibrating transformer gongs are the only types available. Either of the latter patterns will give good results for code signaling on A. C. circuits.



# FARADAY DOUBLE-GONG BELLS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE T

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D. C. CIRCUITS  
CANNOT BE USED ON A. C. CIRCUITS



Model D, Regular Pattern  
Model DP, for Conduit Work



Mechanism Models D and DP

These bells are designed for five different D. C. service conditions, they should be connected direct on line without external resistance of any sort; but there are two distinctly different types of bells, viz.: Multiple type and Series type.

Multiple type gongs for 100-125 and 220-250 volts, and battery circuits of all voltages should always be connected in multiple, like an incandescent lamp is connected to circuit. Multiple type gongs must never be connected in series.

Series type gongs, while requiring no external resistance, may be connected either in multiple or in series, the latter being particularly advantageous, however, under some conditions when lines are long and size copper small; series type gong, in operation, never opens the circuit, minimizing sparking at contacts, etc.; the operation of any one or more gongs in the series may be stopped without interfering with the working of other gongs in circuit.

These bells are entirely different from any double-gong bells on the market because of the new patented quick-break pole-reversing commutator device, which automatically reverses the pull on the armature at extreme position and keeps pull on the armature till it is up against the core; all other double-gong bells reverse the current when armature is in the middle position, causing the magnets to pull the armature in the opposite direction before the end of the stroke.

Multiple Type, D. C.										Series Type, D. C.				
Model No.	Size Each In.	Gang Frame No.	*100-125 Volts		*220-250 Volts		*BATTERY		Add for Conduit Pattern†	*100-125 Volts		*220-250 Volts		Add for Conduit Pattern†
			†Resist. Ohms.	Price Each	†Resist. Ohms.	Price Each	†Resist. Ohms.	Price Each		†Resist. Ohms.	Price Each	†Resist. Ohms.	Price Each	
4	4	1	1000	\$30.65	2000	\$41.00	3	\$20.40		1000	\$30.65	2000	\$41.00	\$10.55
5	5	1	1000	44.80	2000	59.90	3	29.60		1000	44.80	2000	59.90	12.65
6	6	3	1000	49.30	2000	65.15	6	33.35		1000	49.30	2000	65.15	12.65
8	8	3	1000	59.90	2000	78.60	6	41.20		1000	59.90	2000	78.60	15.40
10	10	4	1000	91.70	2000	114.15	10	69.25		1000	91.70	2000	114.15	15.40
12	12	4	1000	116.00	2000	138.45	10	93.55		1000	116.00	2000	138.45	19.15
14	14	4	1000	169.70	2000	195.90	20	143.55		1000	169.70	2000	195.90	23.40
16	16	4	1000	279.75	2000	317.15	20	242.35		1000	279.75	2000	317.15	30.90
18	18	4	1000	312.90	2000	350.30	20	275.50		1000	312.90	2000	350.30	30.90

Standard package, 1.

\*To operate direct on line without external resistance.

†Ohms resistance per pair coils.

‡For conduit pattern add the letter P to Model No. and add to lists in previous columns.

Double-gong bells, above described, will be wound to any desired special resistance for use on D. C. circuits. For prices for such winding, see special listing on another page, being careful to note that double-gong bells always have to be wound to maximum resistance per coil, not per pair of single-gong bells; therefore, prices of double the resistance of single-gong bells must be figured. For example, a single-gong bell to operate without excessive sparking on a given D. C. voltage might be wound to 500 ohms, but a double-gong for same use 500 ohms per coil or 1000 ohms per pair.

In Ordering be Sure to Specify which of the Five Types is Required and Voltage, in Addition to giving Model Number

When series type gongs are required, order must state: (a) How many gongs are to be connected in each series, (b) voltage of circuit, (c) length of line (both legs) and size of wire.



## FARADAY TRANSFORMER DOUBLE-GONG BELLS

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE TENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR 18-VOLT A. C. BELL  
RINGING TRANSFORMER CIRCUITS AND 100-220-VOLT A. C. LIGHT  
AND POWER CIRCUITS, 25-60 CYCLES, AS SPECIFIEDModel DT, Regular Pattern  
Model DTP, for Conduit Work

Mechanism, Models DT and DTP

These bells are designed for five different A. C. service conditions; they should be connected direct on line without external resistance of any sort; there are two distinctly different types of bells; viz.: Multiple type and Series type.

Multiple type gongs for 100 to 220-volt A. C. circuits should always be connected in multiple, like an incandescent lamp is connected to circuit. Multiple type gongs must never be connected in series.

Series type gongs, while requiring no external resistance, may be connected either in multiple or in series, the latter being particularly advantageous, however, under some conditions when lines are long and size copper small. The series type gong, in operation, never opens the circuit, minimizing sparking at contacts, etc.; the operation of any one or more gongs in the series may be stopped without interfering with the working of other gongs in circuit.

These bells are entirely different from any A. C. gongs on the market, because of the new patented quick-break pole-reversing commutator device which automatically reverses the pull on the armature at extreme position, and keeps pull on the armature till it is up against the core. All other double-gong bells reverse the current when armature is in the middle position, causing the magnets to pull the armature in the opposite direction before the end of the stroke.

Model No.	Size Each Gong In.	Frame No.	Multiple Type, A. C.			Series Type, A. C.			Series Type, A. C.			Add for Conduit Pattern†
			*100-110 Volts	Price	*220-250 Volts	*18 Volts	Price	*100-110 Volts	Price	*220-250 Volts	Price	
			†Resist. Ohms	Each	†Resist. Ohms	†Resist. Ohms	Each	†Resist. Ohms	Each	†Resist. Ohms	Each	
DT-4	4	1	400	\$40.85	900	6	\$30.60	400	\$40.85	900	\$51.15	\$10.55
DT-5	5	1	400	62.00	900	6	46.80	400	62.00	900	77.10	12.65
DT-6	6	3	70	67.15	550	3	51.25	70	67.15	550	83.05	12.65
DT-8	8	3	70	80.85	550	3	62.15	70	80.85	550	89.55	15.40
DT-10	10	4	50	121.20	160	1	98.75	50	121.20	160	143.60	15.40
DT-12	12	4	50	134.65	160	1	112.20	50	134.65	160	157.10	19.15

Standard package, 1.

\*To operate direct on line without external resistance.

†Resistance in ohms is the resistance of both coils combined. The actual resistance in circuit is only one-half that shown above, but it will of course be understood that each coil is wound to take the entire line-voltage, not the pair as in single-gong bells.

‡For conduit pattern add the letter P to Model No. and add to lists in previous columns. All gongs are finished Bauer-Barff.

If cycles are not specified, 50 or 60-cycle gongs will be shipped. 25, 30 and 40 cycles will be made to order.

When series type gongs are required, order must state (a) How many gongs are to be connected in series, (b) voltage and cycles of circuit, (c) length of line (both legs) and size of wire.

In Ordering be Sure to Specify which of the Five Types is Required, Voltage and Cycles, in Addition to giving Model Number



# FARADAY DOUBLE-GONG BELLS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE T

LOUD RINGING MAGNETO-EXTENSION BELLS

VIBRATING, WEATHERPROOF, ENCLOSED TYPE

For A. C. Magneto to Generator Circuits of  $16\frac{2}{3}$  Cycles



Model M, Regulator Pattern  
Model MP, for Conduit Work



Mechanism, Models M and MP

Mechanisms of Model M loud-ringing magneto-extension bells are of polarized type with permanent magnets, entirely different in principle from the standard double-gong bell. These bells are made in three sizes, viz: 6-inch, 8-inch and 10-inch. They cannot be furnished in larger sizes.

Under certain line conditions, the operation of Model M bells is improved by use of condensers which are listed in two capacities at bottom of page. Prices of bells do not include condensers and in all cases where condensers are wanted, specific order for them must be given, as Model M bells are regularly furnished without condensers.

Size Gong Inches	Frame No.	Resistance Ohms per Pair Magnets	MODEL M REGULAR PATTERN		MODEL MP FOR CONDUIT WORK	
			Model No.	Price Each	Model No.	Price Each
6	3	80	M-680	\$50 85	MP-680	\$63 50
6	3	1000	M-61000	50 85	MP-61000	63 50
6	3	1600	M-61600	53 10	MP-61600	65 75
6	3	2500	M-62500	58 95	MP-62500	71 60
8	3	80	M-880	74 45	MP-880	89 85
8	3	1000	M-81000	74 45	MP-81000	89 85
8	3	1600	M-81600	76 65	MP-81600	92 05
8	3	2500	M-82500	82 50	MP-82500	97 90
10	3	80	M-1080	83 80	MP-1080	99 20
10	3	1000	M-101000	83 80	MP-101000	99 20
10	3	1600	M-101600	86 00	MP-101600	101 40
10	3	2500	M-102500	91 85	MP-102500	107 25

Standard package, 1.

## CONDENSERS

Mfg. No.	Capacity	Price Each
CMF-2	2MF	\$9 35
CMF-4	4MF	15 70



## FARADAY SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

## SCHEDULE E

A. C. TRANSFORMER SIGNAL-GONG ENCLOSED TYPE, VIBRATING  
WEATHERPROOF

For Operation on 18 Volt A. C. Bell Ringing Transformer Circuits or Battery and 100-220  
Volt A. C. Light and Power Circuits, 25-60 Cycles, as Specified

Faraday Transformer Enclosed Type Signal Gongs listed below are made in non-guarded, half-grid-guarded and full-grid-guarded gong designs. The mechanism is entirely different in design and operation from the ordinary type of signal gongs. They have carbon contacts, and are made for multiple operations only. The extreme rapidity of vibration gives a sound just as satisfactory for code signalling as a single-stroke gong.

Transformer gongs are regularly furnished to operate direct in multiple without external resistance on 18-volt, 110-volt and 220-volt circuits.



Model AT

Magnet cores are of latest type laminated construction, windings are of enameled wire and every detail of the mechanism is of the same standard as light and power circuit apparatus.

When used on bell ringing transformers it is very important that the transformer be of sufficient capacity or satisfactory gong operation is impossible. Ample size copper in line between transformers and gongs is also an absolute essential.

## Model AT Non-guarded Gongs, 4 to 12 Inches

Model No.	Size Inches	Std. Pkg.	To Operate On			
			A. C. 18 Volt Transformer Circuits or Battery	100-110 Volt A. C. Circuits	220-250 Volt A. C. Circuits	Add for Conduit Pattern
AT- 4	4	6	\$16.30	\$24.55	\$32.75	\$8.45
AT- 5	5	6	25.00	37.10	49.20	10.10
AT- 6	6	6	27.30	40.00	52.75	10.10
AT- 8	8	4	33.15	48.10	63.05	12.35
AT-10	10	2	52.65	70.60	88.55	12.35
AT-12	12	2	59.90	77.80	95.75	15.35



Model BT

## Model BT Half-grid-guarded Gongs, 4 to 12 Inches

BT- 4	4	6	23.05	31.25	39.50	8.45
BT- 5	5	6	32.15	44.30	56.40	10.10
BT- 6	6	6	34.50	47.20	59.90	10.10
BT- 8	8	4	42.85	57.80	72.80	12.35
BT-10	10	2	65.40	83.35	101.30	12.35
BT-12	12	2	77.05	95.00	112.95	15.35



Model CT

## Model CT Full-grid-guarded Gongs, 5 to 13 Inches

CT- 4	4	6	34.25	42.50	50.70	8.45
CT- 5	5	6	45.95	58.05	70.15	10.10
CT- 6	6	6	48.25	60.95	73.70	10.10
CT- 8	8	4	59.30	74.30	89.25	12.35
CT-10	10	2	85.60	103.50	121.50	12.35
CT-12	12	2	101.75	119.70	137.65	15.35

\*For conduit patterns add the letter P to Model No. and add to list in previous columns, amounts shown in right-hand column.

Above gongs are to operate in multiple, no external resistance required.

In ordering specify Model No., voltage and cycles.

All gongs are finished Bauer-Barff.



## FARADAY BELLS WITH FANCY GONGS

### SCHEDULE E

#### SKELETON AND ENCLOSED TYPES

Both Faraday Skeleton and Faraday Enclosed Type Bells will be furnished with what is termed "fancy gongs" in place of standard round gongs.

Fancy gong equipment is desirable where a different sounding gong is wanted or where a particularly penetrating sound is needed, such as in noisy factory buildings, etc. The rectangular or cow gong being the most penetrating.

These gongs have high power armatures, making it possible to keep the armature in magnetic field up to the moment hammer rod ball strikes gong in place of opening at contact points at beginning of stroke as all other mechanisms do. Breakage of springs cannot disable gong. Frame casting carries no current at any time and as the entire mechanism is insulated from the frame, these gongs may be mounted on metal, metal lathing and damp walls without fear of grounding.

These gongs are designed to operate on battery circuits. They will be furnished single-stroke when specially ordered at 50 cents net additional, but for important single-stroke work, the single-stroke gongs shown on other pages are recommended.

These gongs will be furnished wound to any special resistance desired at standard list additions shown elsewhere.

NOTE.—The Underwriters' Laboratories approve enclosed type gongs for signal systems coming under their supervision.



Skeleton Bell  
with Cow Gong



Enclosed Type Bell  
with Cow Gong



Rectangular or Cow Gong



Sleigh Gong



Dome Gong

#### SKELETON BELLS

##### With Rectangular or Cow Gongs

Trade No.	Mfrs. No.	Size, Gong Inches	Frame No.	Resist. Ohms	Std. Pkg.	Price Each
190835	0-112	1 3/4 x 2 1/2	1	3.2	1	\$9.05
190836	0-23	2 x 3	1	3.2	1	9.20
190837	0-35	3 1/8 x 5	2	4	1	15.85
190838	0-46	4 1/4 x 6	3	5	1	34.55

##### With Sleigh Gongs

190839	0-111	1 1/2 x 1 3/4	1	3.2	1	9.05
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##### With Dome Gongs

190840	0-21	2 1/2 x 1 1/4	1	3.2	1	9.05
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#### ENCLOSED TYPE BELLS

##### With Rectangular or Cow Gongs

Trade No.	Mfrs. No.	Size, Gong Inches	Frame No.	Resist. Ohms	Std. Pkg.	Price Each
190841	A112	1 3/4 x 2 1/2	0	2	1	\$11.80
190842	A23	2 x 3	1	3.2	1	12.00
190843	A35	3 1/8 x 5	2	4	1	23.10
190844	A46	4 1/4 x 6	3	5	1	40.40

##### With Sleigh Gongs

190845	A111	1 1/2 x 1 3/4	0	2	1	11.80
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##### With Dome Gongs

190846	A21	2 1/2 x 1 1/4	0	2	1	11.80
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All above bells except skeleton types furnished with outlet box backs for conduit work at same list additions as shown on page of Inspectors' Pattern Gongs for respective Frame Nos.

PLATINUM CONTACTS.—Add to above prices for pure platinum contacts \$1.90 net for bells up to and including No. 2 Frame; \$2.50 net for No. 3 Frame.

TRIPLEX CONTACTS.—Add to above prices for triplex platinum contacts \$3.75 net for bells up to and including No. 2 Frame; No. 3 Frame, \$4.40; for triplex pure platinum contacts, add to above prices the following: up to and including No. 2 Frame, \$5.60 net; No. 3 Frame, \$7.50 net.



## EKLA SKELETON BELLS AND FARADAY BUZZERS

## SCHEDULE E



Ekla Skeleton Bell

## EKLA SKELETON BELLS, VIBRATING

## FOR BATTERY CIRCUITS

## With Regular Round Gongs

Trade No.	Model No.	Size, Gong Inches	Frame No.	Resistance Ohms	Std. Pkg.	Price Each
190870	Z- 2 1/2	2 1/2	1	3.2	8	\$5.25
190871	Z- 3	3	1	3.2	8	5.55
190872	Z- 4	4	1	3.2	8	6.60
190873	Z- 5	5	2	4.	8	7.80
190874	Z- 6	6	2	4.	12	8.85
190875	Z- 8	8	3	5.	6	14.35
190876	Z-10	10	4	5.	4	21.30
190877	Z-12	12	X5	5.	4	27.50

Ekla Skeleton Bells are regularly furnished in standard resistances shown above; when ordered they will be wound to any special resistance desired at standard list additions shown on another page. Silver contacts are used.

Ohms resistance for operation of Faraday and Ekla Vibrating Bells on direct current voltages without excessive sparking at contacts.

Ohms per Bell	Voltage	Ohms per Bell	Voltage	Ohms per Bell	Voltage	Ohms per Bell	Voltage
5	6-10	100	25-30	300	55-65	500	105-100
10	10-15	150	30-35	350	65-80	550	110-120
20	15-20	200	35-45	400	80-95	1000	120-130
50	20-25	250	45-55	450	95-105	2000	220-240

For list additions for special resistance winding for Faraday and Ekla Gongs, see another page.

NOTE.—Skeleton Bells listed above are designed to operate on battery circuits only. Bells for ringing on transformer circuits and 110-volt A. C. light and power circuits Transformer Marlo Giant Gongs or Faraday Transformer Enclosed Type Gongs are recommended.

Nos. 93, 99 and 101  
Buzzer, Cover in  
Position

## FARADAY ENCLOSED TYPE BUZZERS

## FOR BATTERY CIRCUITS

The Standard Nos. 89, 91, 93, 99 and 101 have the Faraday high-power Armature; No. 94 extra loud, in addition to the high-power armature, has a heavy steel ball at the end of armature rod—makes the signal three times as powerful as the No. 99 or No. 101.

Nos. 89 and 91 are the same as No. 101 mechanism. They are intended for interior mounting in annunciators, switchboards, telephone apparatus, etc.; No. 93 is the same mechanism, with standard cover complete with rubber gasket, etc.

Side contact adjustment is of patented micrometer lock type; all working parts are heavily copper-plated against dampness. Magnet coils are waterproof; soft rubber gasket between frame and cover guards against outside moisture. Triplex contacts will be furnished when specially ordered.

Nos. 89, 91, 93, 99 and  
101 Buzzers, Covers  
RemovedNo. 94 Buzzer, Cover  
Removed

Trade No.	Model No.	Style	No. of Frame	Resistance Ohms	Size Inches	Price Each
190878	89	No cover	00	3.	1 5/8 x 1 5/8 x 1	\$6.60
190879	93	Enclosed	00	3.	2 3/8 x 2 3/8 x 1 5/8	7.05
190880	91	No cover	00	3.	2 3/8 x 2 3/8 x 1	6.60
190881	99	Enclosed	0	2.	3 1/8 x 3 3/8 x 1 1/4	7.95
190882	101	Enclosed	1	3.2	4 1/4 x 4 x 2 1/8	9.35
190883	94	Enclosed	1	3.2	4 1/4 x 4 x 2 1/8	11.20

Standard package, six.

Add to above prices for pure platinum contacts \$1.90 net.

Add to above prices of buzzers for triplex platinum contacts \$3.75 net; for triplex pure platinum contacts \$5.60 net. Triplex contacts not furnished on Nos. 89, 91 and 93 buzzers.



# FARADAY UNDER-DOME GONGS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE T

ENCLOSED-TYPE, VIBRATING, WATERPROOF, FOR BATTERY  
AND D. C. CIRCUITS

CANNOT BE USED ON A. C. CIRCUITS



Model U



Showing Mechanism of  
Under-dome Bell



Model UP

Faraday Under-dome Gongs are admittedly superior to the projecting neck type of gong heretofore almost universally used. In the under-dome type gong, the entire mechanism, including hammer-rod and ball, are within the gong itself, completely housed and protected from mechanical injury. This type of gong lends itself to the requirements of high class building work, i.e., that gongs shall not in any way mar the general building lines, for the design harmonizes with interior surroundings to a degree never possible to obtain with the conventional projecting neck type of gong.

Under-dome gongs are regularly furnished in bauer-barff finish. When specially ordered will be furnished at slight additional cost in any color to match walls or decorations.

Under-dome gongs have the following advantages in mechanism detail:

(a) Patented high-power armature allows the keeping of armature in magnetic field up to the moment of striking the gong—twice the power of any other mechanism made, because contact-joints do not open or cut off current until end of stroke.

(b) Bronze-steel power-multiplying gears between armature and hammer-rod.

(c) No springs can break to stop operation of gong.

(d) Frame casting carries no current at any time and as the entire mechanism is insulated from the frame, under-dome gongs may be mounted on metal, metal lathing and damp walls without fear of grounding.

Under-dome gongs Models U and UP are designed to operate best on battery not less than 50 amp. capacity and, when ordered wound to proper resistance, on D. C. electric light and power circuits from 100 to 600 volts. For A. C. circuits, both bell ringing transformer and 100-240-volt A. C. circuits, transformer under-dome gongs are recommended.

Under-dome gongs will be furnished single-stroke when specially ordered at \$2.50 net additional.

These gongs will be furnished wound to any resistance desired at standard list additions shown elsewhere.

NOTE.—The Underwriters' Laboratories approve under-dome gongs Models U and UP for signal systems coming under their supervision.

## Model U, No Conduit Box Back

Model No.	Size Gong Inches	No. of Frame	Resistance Ohms	Std. Pkg.	Price Each
U-8	8	3	5	1	\$83.35
U-10	10	4	5	1	123.50

## Model UP, with Cast Outlet Box Back for Surface Conduit Work

Model No.	Size Gong Inches	No. of Frame	Resistance Ohms	Std. Pkg.	Price Each
UP-8	8	3	5	1	106.45
UP-10	10	4	5	1	152.20

PLATINUM CONTACTS.—Add to above prices for pure platinum contacts \$2.50 net.

TRIPLEX CONTACTS.—Add to above prices for triplex platinoid contacts, \$4.40 net, for triplex pure platinum contacts, add to above prices \$7.50 net.



## FARADAY TRANSFORMER UNDER-DOME SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE T

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR 18-VOLT, 50-60 CYCLE  
A. C. BELL RINGING TRANSFORMER CIRCUITS AND 100-200 VOLT, 50-60 CYCLE,  
A. C. LIGHT AND POWER CIRCUITS  
25, 30 AND 40-CYCLE TO ORDER



Model UT

Mechanism  
Models UT and UTP

Model UTP

The mechanism of these transformer gongs is entirely different in design and operation from the ordinary type of signal gong. They have no contacts, can be operated in series or in multiple with absolutely no sparking and may be safely installed in places where presence of gas, inflammable vapors and dust have hitherto made the use of electric signaling apparatus dangerous, if not actually impossible.

The extreme rapidity of vibration gives a sound just as satisfactory for code signaling as a single-stroke gong. They are regularly furnished to operate direct in multiple without external resistance on 18-volt, 110-volt and 220-volt circuits. When specially ordered, they will be furnished to operate as follows, viz.: (a) In series (any number as may be specified not exceeding 6 gongs) on 100-110 volts A. C. light and power circuits, 25-60 cycles. (b) In series (any number as may be specified not exceeding 12 gongs) on 220 volts A. C. light and power circuits, 25-60 cycles.

Even when as many as 12 transformer gongs are connected in series on a 220-volt circuit or 6 on 110-volt circuit, the current consumption of all gongs is no greater than that required by one gong, an important desideratum in satisfactory operation and life of circuit closing devices.

Magnet cores are of latest type laminated construction; windings are of enameled wire, and every detail of the mechanism is of the same standard as light and power circuit apparatus.

When used on bell ringing transformers, it is very important that the transformer be of sufficient capacity or satisfactory gong operation is impossible. Ample size copper in line between transformers and gongs is also an absolute essential.

## For Use Direct in Multiple on 18-volt 50-60-cycle A. C. Bell Ringing Transformer Circuits

Size Gong Inches	Frame No.	MODEL UT FOR REGULAR WORK			MODEL UTP FOR CONDUIT WORK		
		Model No.	Std. Pkg.	Price Each	Model No.	Std. Pkg.	Price Each
8	3	UT-8	1	\$83.35	UTP-8	1	\$106.45
10	4	UT-10	1	123.50	UTP-10	1	152.20

## For Use Direct in Multiple on 100-110-volt 50-60-cycle A. C. Light and Power Circuits

8	3	UT-8	1	102.05	UTP-8	1	125.15
10	4	UT-10	1	145.95	UTP-10	1	174.65

## For Use Direct in Multiple on 200-220-volt 50-60-cycle A. C. Light and Power Circuits

8	3	UT-8	1	120.75	UTP-8	1	143.85
10	4	UT-10	1	168.35	UTP-10	1	197.10

## For Use in Series (Any Number as May Be Specified not Exceeding 10 Gongs) on 100-110-volt 50-60-cycle A. C. Light and Power Circuits

8*	3	UT-8	1	102.05	UTP-8	1	125.15
10*	4	UT-10	1	145.95	UTP-10	1	174.65

## For Use in Series (Any Number as May Be Specified not Exceeding 20 Gongs) on 200-220-volt 50-60-cycle A. C. Light and Power Circuits

8*	3	UT-8	1	120.75	UTP-8	1	143.85
10*	4	UT-10	1	168.35	UTP-10	1	197.10

\*When series gongs are ordered, specify the number to be connected in series together with voltage and cycles of circuit. All gongs are finished Bauer-Barff.

Transformers must always be of sufficient capacity or gong operation is impossible. Ample size copper conductors between transformers and gongs is also very necessary.



# FARADAY HAMMER-BLOW SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE E

ENCLOSED AND SKELETON TYPE HIGH POWER  
GONGS, FOR BATTERY AND D. C. CIRCUITS  
CANNOT BE USED ON A. C. CIRCUITS



Model AH  
Regular Pattern  
Model AHP  
For Conduit Work



Model BH  
Regular Pattern  
Model BHP  
For Conduit Work



Model CH  
Regular Pattern  
Model CHP  
For Conduit Work



Showing Mechanism of  
Hammer-blow Faraday Gong

Faraday Hammer-blow High Power Signal Gongs Models AH, BH and CH have mechanisms that give a long, slow, hammer-blow movement, very similar to a powerful electro-mechanical gong, but having no clockwork mechanism, of course requires no winding up, as does the electro-mechanical type; should be operated on battery sets of not less than 50-ampere capacity.

The long, slow, powerful movement in this mechanism is obtained by means of the Faraday multiple-gear, between armature and hammer rod, a feature that, with a  $\frac{3}{8}$ -inch movement of armature, permits, for example, in a 10-inch size gong a 3-inch movement of the hammer ball.

Semi-flexible re-coil type hammer rod guarantees a clear, unmuffled blow on the gong, a most valuable advantage over the usual hammer rod construction of other makes.

No other type of gong can be operated with the long, powerful, hammer-blow feature, for without the patented Faraday high-power armature construction, this type of gong would be impossible. With this patented feature in Models AH, BH and CH gongs, the armature is held in the magnetic field with current on coils up to the moment the hammer rod ball strikes the gong. This design gong gives twice the power of any other make of gong because in the Faraday construction contact points do not open with the forward movement of the armature to cut off the current, but current is allowed to stay on the field coils until the end of stroke.

Breakage of springs cannot disable this model gong, whereas with every other make of gong, a broken spring means the failure of the signal.

Waterproof magnet coil windings, micrometer pattern contact posts, non-turning and non-loosening binding posts, bell metal gongs, rubber gasketed weather-proof and dust-proof casings, sealed-in back connections, no exposed terminals, lock washers on all binding posts etc.,—all enclosed type Faraday gong standards are embodied in these models.

			ENCLOSED TYPE						SKELETON TYPE	
			MODEL AH		MODEL BH		MODEL CH		MODEL OH	
			NON-GUARDED GONG		HALF-GUARDED GONG		FULL-GUARDED GONG			
Size Gong	Frame	Resistance	Model	Price	Model	Price	Model	Price	Model	Price
Inches	No.	Ohms	No.	Each	No.	Each	No.	Each	No.	Each
4	1	3 2	AH- 4	\$32 25	BH- 4	\$40 70	CH- 4	\$54 70	OH- 4	\$27 60
5	2	4	AH- 5	42 20	BH- 5	51 15	CH- 5	68 35	OH- 5	34 10
6	2	4	AH- 6	44 75	BH- 6	53 70	CH- 6	70 90	OH- 6	35 45
8	3	5	AH- 8	55 60	BH- 8	67 70	CH- 8	88 25	OH- 8	48 10
10	4	5	AH-10	87 35	BH-10	103 20	CH-10	128 50	OH-10	72 20
12	X-5	5	AH-12	107 25	BH-12	128 75	CH-12	159 60	OH-12	83 70
14	X-5	5	AH-14	140 55	BH-14	171 35	CH-14	206 00	OH-14	131 70
16	6	8	AH-16	227 00						
18	6	8	AH-18	249 10						

All above bells except Skeleton Types are furnished with outlet box backs for conduit work at same list additions as shown on page of Inspectors' Pattern Gongs for respective sizes.



## FARADAY ELECTRO-MECHANICAL SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD  
SCHEDULE T

ENCLOSED TYPE, VIBRATING AND SINGLE STROKE

Open and Closed Circuit Types for Battery, D. C. and A. C. Light and Power Circuits

Model E, Regular Pattern  
Model EP, for Conduit WorkOutlet Box  
for Pipe Entrance

Mechanism, Model E

Electro-Mechanical gongs are designed to give a very loud, powerful signal, with a minimum of current. The blow itself on the gong is struck by a heavy ball on the end of a lever, released by the electric current, but operated by a powerful clock spring. The powerful steel clock spring operating the main shaft is securely housed on the under side of the mounting plate, entirely separate from the gear and lever compartment. Heavy felt gaskets prevent dust and dampness from getting into the mechanism.

Faraday Electro-Mechanical Gongs give approximately 700 blows with one winding and at \$5.00 net additional per gong they will be furnished, when specially ordered, with reliable rewind signal contactor to which may be connected a tell-tale bell to give notification whenever a gong needs rewinding. It will also give warning if, from any cause, the main spring of the mechanism should break.

For even open work wiring without conduit, Model EP is strongly recommended, because this design affords the simplest and most convenient method of installation. In this model the terminals for connections to circuit wires are mounted in the outlet box back so that when the mechanism of the gong is put up, the operation is easy and convenient.

Regularly furnished with knockouts for  $\frac{1}{2}$  or  $\frac{3}{4}$ -inch conduit as specified in four sides of the box.

Standard finish: dull black enamel with Bauer-Barff gongs. Cases, when specially ordered, will be furnished without additional charge, in English vermilion finish.

The following types of mechanism are made. Type must be specified:

1. Single stroke, for open circuit work.
2. Single stroke, for closed circuit work.
3. Continuous ringing, for open circuit work.
4. Continuous ringing, for closed circuit work.
5. To ring continuously until run down, for open circuit work (\$5.00 net additional).
6. To ring continuously until run down, for closed circuit work (\$5.00 net additional).

Size Gong Inches	Regular Resistance Ohms	Model E For Regular Installations Without Conduit		Model EP With Conduit Box Back For Exposed Conduit	
		Model No.	Price Each	Model No.	Price Each
6	20	E- 6	\$86.75	EP- 6	\$99.10
8	20	E- 8	91.25	EP- 8	103.60
10	20	E-10	101.75	EP-10	114.05
12	20	E-12	112.20	EP-12	124.55
14	20	E-14	125.65	EP-14	138.00
16	20	E-16	155.60	EP-16	167.95
18	20	E-18	170.55	EP-18	182.90

These gongs will be furnished wound to any special resistance desired at standard list additions for respective sizes.



## BRYANT SILENT CALL SIGNAL SYSTEMS



No. 13 Calling Station



No. 16 Ward Calling Station

The Bryant System provides a means for transmitting a signal to one or as many points as desired, and the signals cannot be changed or effaced until the call has been answered at point of origin. Positive record may also be obtained as to the origin of and response to calls as made.

The use of auxiliary devices may also be provided for at the calling station, as shown in the illustrations.

The following exclusive features of the Bryant Silent Call Signal System are worthy of consideration by anyone at all interested in such installations:

Operates direct on 100-125 volts direct or alternating current, without relays, motor generators, transformers or auxiliary apparatus of any kind.

The wires of the Bryant System are usually installed in the same raceways with the house lighting circuits, and all parts of the system were designed with an ample margin of safety.

The "call-push" and cord to calling station become "dead" simultaneously with the registration of the call. Besides the circuit fuses regularly employed, there are fuses in the detachable plug which protect both wires of the cord. This provides an element of safety not found in any other system and affords absolute protection against the liability of shock due to worn cords, short circuits, grounds or other possible electrical trouble.

The extension cord is extremely flexible, being specially manufactured for the purpose. Each wire is heavily insulated with rubber, and the two conductors are then surrounded with additional rubber insulation, the whole being protected by a heavy braid of cotton. This insures uninterrupted service under the most severe conditions.

Plug receptacles for current-consuming devices, such as fan motors, heating pads, reading lamps, etc., may be made a part of the calling station plates.

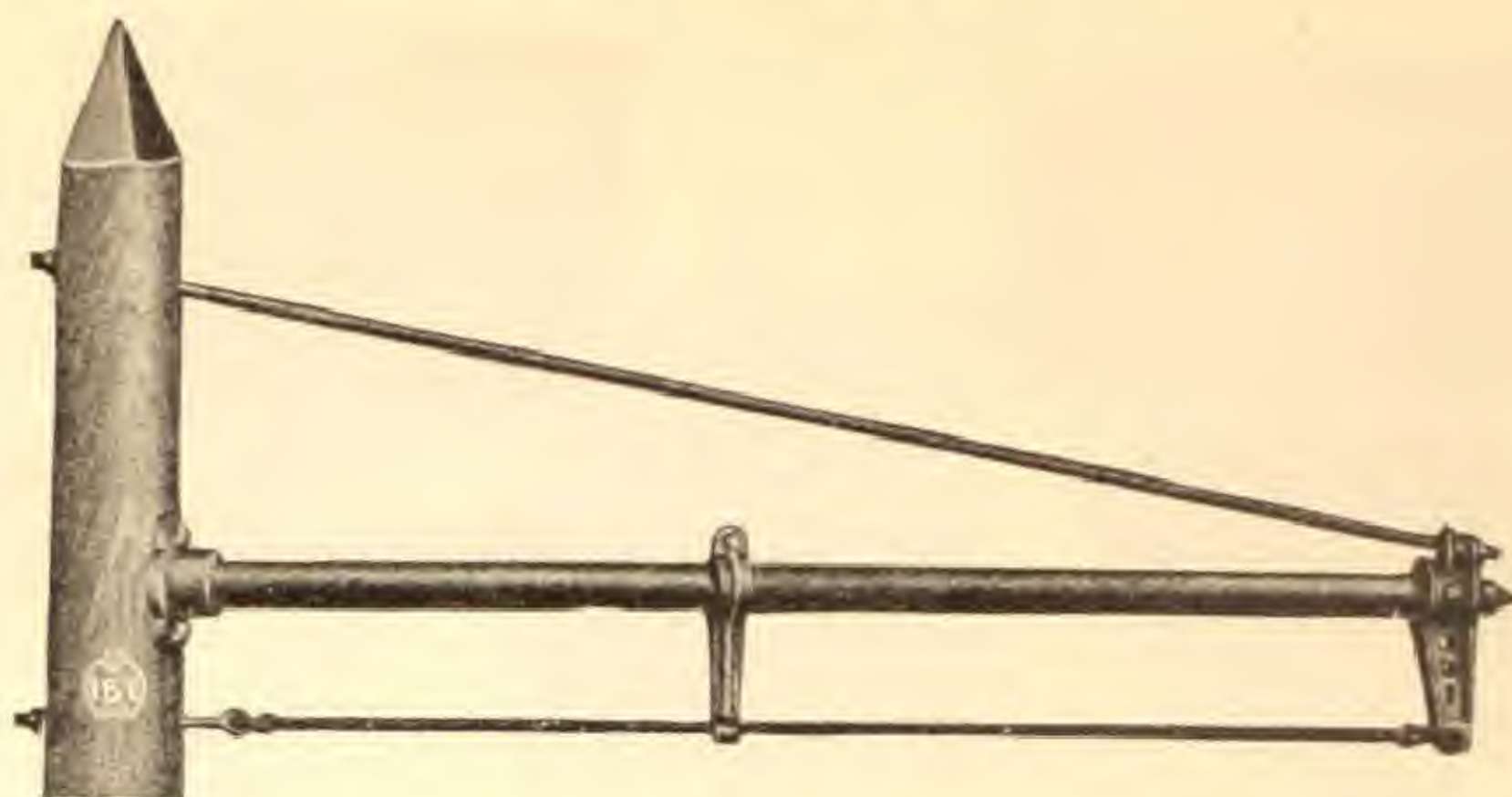
Current for operating the system may be taken from lighting panel boards instead of from centralized source of energy, such as a low voltage motor generator or storage battery. This simplifies and cheapens the whole electrical layout by eliminating the double distributing systems and by reducing the amount of copper necessary with low voltages.

Cost of operation is negligible, since current is consumed only during the time signal lamps are lighted, and these consume less than 10 watts each.



## DREW RAILWAY LINE MATERIAL

## TYPE HW BRACKETS FOR WOOD POLES



These flexible bracket arms are in great favor where wood poles are used. All castings are heavy malleable iron. One and one-half or two-inch C tubing is furnished as specified; nine, ten and twelve-foot lengths as required. Parts are furnished with a heavy coat of black rustproof paint.

## 9-FOOT FLEXIBLE ARM

Description	2-inch C Tubing				1½-inch C Tubing			
	Trade No.	Mfrs. No.	Approx. Wt., Lbs.	Price per 100	Trade No.	Mfrs. No.	Approx. Wt., Lbs.	Price per 100
Complete bracket arm.....	203383	8010	52	\$900.00	203391	8040	40	\$730.00
Arm only, 9-ft. tubing.....	203384	8011	32½	*	203392	8041	24	*
Tension rod only.....	203385	8012	7	170.00	203393	8042	4	120.00
End casting, outer span holder.....	203386	8013	3	130.00	203394	8023	3	110.00
Socket only.....	203387	8014	2	80.00	203395	8024	2	60.00
Middle support only.....	203388	8015	2½	70.00	203396	8025	2	60.00
Eye bolt only, ½x12 in.....	203389	8016	3	*	203397	8016	3	*
10 ft. 6 in. of ⅝-in. Bessemer strand.....	203390	8017	2	*	203398	8017	2	*

NOTE.—Tension rod for 2-inch tubing is ½ in. x 10 ft. 2 in.; for 1½-inch tubing, ⅜ in. x 10 ft. 2 in.

## 10-FOOT FLEXIBLE ARM

Description	2-inch C Tubing				1½-inch C Tubing			
	Trade No.	Mfrs. No.	Approx. Wt., Lbs.	Price per 100	Trade No.	Mfrs. No.	Approx. Wt., Lbs.	Price per 100
Complete bracket arm.....	203399	8020	57½	1000.00	203407	8050	44	800.00
Arm only, 10-ft. tubing.....	203400	8021	36½	*	203408	8051	26½	*
Tension rod only.....	203401	8022	8	190.00	203409	8052	4½	150.00
End casting, outer span holder.....	203402	8013	3	130.00	203410	8023	3	110.00
Socket only.....	203403	8014	2	80.00	203411	8024	2	60.00
Middle support only.....	203404	8015	2½	70.00	203412	8025	2	60.00
Eye bolt only, ½x12 in.....	203405	8016	3	*	203413	8016	3	*
11 ft. 6 in. of ⅝-in. Bessemer strand.....	203406	8027	2½	*	203414	8027	2½	*

NOTE.—Tension rod for 2-inch tubing is ½ in. x 11 ft. 3½ in.; for 1½-inch tubing, ⅜ in. x 11 ft. 3½ in.

## 12-FOOT FLEXIBLE ARM

Description	2-inch C Tubing				1½-inch C Tubing			
	Trade No.	Mfrs. No.	Approx. Wt., Lbs.	Price per 100	Trade No.	Mfrs. No.	Approx. Wt., Lbs.	Price per 100
Complete bracket arm.....	203415	8030	68	1200.00	203423	8060	48½	940.00
Arm only, 12-ft. tubing.....	203416	8031	45	*	203424	8061	30½	*
Tension rod only.....	203417	8032	9½	230.00	203425	8062	5	170.00
End casting, outer span holder.....	203418	8013	3	130.00	203426	8023	3	110.00
Socket only.....	203419	8014	2	80.00	203427	8024	2	60.00
Middle support only.....	203420	8015	2½	70.00	203428	8025	2	60.00
Eye bolt only, ½x12 in.....	203421	8016	3	*	203429	8016	3	*
12 ft. 6 in. of ⅝-in. Bessemer strand.....	203422	8037	3	*	203430	8037	3	*

NOTE.—Tension rod for 2-inch tubing is ½ in. x 13 ft. 6 in.; for 1½-inch tubing, ⅜ in. x 13 ft. 6 in.

\*Prices will be quoted on application.



## DREW RAILWAY LINE MATERIAL

### DREW FLOATING BELL HANGERS



PATENTS PENDING

The floating bell hanger consists of two pieces, the yoke and the bell. The latter can be rotated in the yoke which permits screwing ear tight on the stud and turning to permanent alignment with the trolley wire. Eliminates the loose ear evil common to other types of hanger. Furnished galvanized.

Trade No.	Mfrs. No.	Size Stud Inches	Wt., Lbs. per 100	Price per 100
203431	123	$\frac{5}{8}$	175	\$117.00
203432	124	$\frac{3}{4}$	200	127.00

### TYPE H CLINCH EARS

For Round Wire Only



This type of ear permits smooth wheel passage and has great holding power. Design affords maximum strength with minimum weight. Conforms to A. E. R. A. specifications. Groove is milled to size of wire.

Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100	Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100
203433	0951	9	$\frac{5}{8}$	0	\$76.00	203443	01263	12	$\frac{3}{4}$	000	\$104.00
203434	0952	9	$\frac{5}{8}$	00	82.00	203444	01264	12	$\frac{3}{4}$	0000	112.00
203435	0961	9	$\frac{3}{4}$	0	76.00	203445	01551	15	$\frac{5}{8}$	0	102.00
203436	0962	9	$\frac{3}{4}$	00	82.00	203446	01552	15	$\frac{5}{8}$	00	110.00
203437	01251	12	$\frac{5}{8}$	0	88.00	203447	01553	15	$\frac{5}{8}$	000	120.00
203438	01252	12	$\frac{5}{8}$	00	96.00	203448	01554	15	$\frac{5}{8}$	0000	130.00
203439	01253	12	$\frac{5}{8}$	000	104.00	203449	01564	15	$\frac{3}{4}$	0	102.00
203440	01254	12	$\frac{5}{8}$	0000	112.00	203450	01564	15	$\frac{3}{4}$	00	110.00
203441	01261	12	$\frac{3}{4}$	0	88.00	203451	01564	15	$\frac{3}{4}$	000	120.00
203442	01262	12	$\frac{3}{4}$	00	96.00	203452	01564	15	$\frac{3}{4}$	0000	130.00

### CUSHION EARS



The cushion ear has the same general dimensions as all the standard Drew ears. It has the same strength and holding power, as shown by the cross-section illustration. This ear is deepened in the groove at the middle. This feature permits a slight upward movement of the wire as the trolley wheel passes under. The cushion effect thus obtained prevents pounding and the undue wear on the wire at the middle of the ear. It also minimizes arcing which adds to life of both ear and wire.

Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100	Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100
203453	161551	15	$\frac{5}{8}$	0	\$102.00	203457	161561	15	$\frac{3}{4}$	0	\$102.00
203454	161552	15	$\frac{5}{8}$	00	110.00	203458	161562	15	$\frac{3}{4}$	00	110.00
203455	161553	15	$\frac{5}{8}$	000	120.00	203459	161563	15	$\frac{3}{4}$	000	120.00
203456	161554	15	$\frac{5}{8}$	0000	130.00	203460	161564	15	$\frac{3}{4}$	0000	130.00



## DREW RAILWAY LINE MATERIAL

## TYPE B TROLLEY EARS

For Grooved and Figure 8 Wire



No milling is done inside or out of the groove, so the superior holding power of the hard, dense exterior portion of the casting and its greater resistance to wear is secured. The edges of the lips are accurately ground so as to permit smooth wheel movement under the ear. The concaved sides of the boss make for very smooth operation, whether on straight lines or curves, without sacrificing any strength.

Type B Ears hold the wire firmly and are entirely satisfactory for high speed operation. Like all other Drew Clinch Ears, A. E. R. A. specifications for bronze are followed rigidly. Soldering is not necessary but ears can be supplied tinned at extra charge.

## For Grooved Wire

Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100
203461	231251	12	5/8	0	\$105.00
203462	231252	12	5/8	00	115.00
203463	231253	12	5/8	000	125.00
203464	231254	12	5/8	0000	135.00
203465	231261	12	3/4	0	105.00
203466	231262	12	3/4	00	115.00
203467	231263	12	3/4	000	125.00
203468	231264	12	3/4	0000	135.00
203469	231551	15	5/8	0	122.00
203470	231552	15	5/8	00	132.00
203471	231553	15	5/8	000	144.00
203472	231554	15	5/8	0000	156.00
203473	231561	15	3/4	0	122.00
203474	231562	15	3/4	00	132.00
203475	231563	15	3/4	000	144.00
203476	231564	15	3/4	0000	156.00

## For Figure 8 Wire

Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100
203477	241251	12	5/8	0	\$105.00
203478	241252	12	5/8	00	115.00
203479	241253	12	5/8	000	125.00
203480	241254	12	5/8	0000	135.00
203481	241261	12	3/4	0	105.00
203482	241262	12	3/4	00	115.00
203483	241263	12	3/4	000	125.00
203484	241264	12	3/4	0000	135.00
203485	241551	15	5/8	0	122.00
203486	241552	15	5/8	00	132.00
203487	241553	15	5/8	000	144.00
203488	241554	15	5/8	0000	156.00
203489	241561	15	3/4	0	122.00
203490	241562	15	3/4	00	132.00
203491	241563	15	3/4	000	144.00
203492	241564	15	3/4	0000	156.00

## CLINCH STRAIN EARS

The same high grade of bronze is used for Drew Clinch Strain Ears as is used in the regular line of ears. Extra heavy lugs are provided to attach strain wires. The special Drew process of casting the grooves to size results in superior holding power under the most severe strains. Furnished tinned for soldering to the trolley.

## Type R—For Round Wire



Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100
203493	61551	15	5/8	0	\$165.00
203494	61552	15	5/8	00	175.00
203495	61553	15	5/8	000	200.00
203496	61554	15	5/8	0000	210.00
203497	61561	15	3/4	0	165.00
203498	61562	15	3/4	00	175.00
203499	61563	15	3/4	000	200.00
203500	61564	15	3/4	0000	210.00

Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100
203501	61951	19	5/8	0	\$170.00
203502	61952	19	5/8	00	180.00
203503	61953	19	5/8	000	220.00
203504	61954	19	5/8	0000	230.00
203505	61961	19	3/4	0	170.00
203506	61962	19	3/4	00	180.00
203507	61963	19	3/4	000	220.00
203508	61964	19	3/4	0000	230.00



## DREW RAILWAY LINE MATERIAL

### CLINCH STRAIN EARS—Continued

#### TYPE G—FOR GROOVED WIRE



This type follows the general design of the Type R Strain Ear except that the groove is accurately cast to retain standard grooved trolley.

Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100	Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100
203509	71551	15	5/8	0	\$198 00	203517	71951	19	5/8	0	\$220 00
203510	71552	15	5/8	00	210 00	203518	71952	19	5/8	00	220 00
203511	71553	15	5/8	000	240 00	203519	71953	19	5/8	000	265 00
203512	71554	15	5/8	0000	252 00	203520	71954	19	5/8	0000	280 00
203513	71561	15	3/4	0	198 00	203521	71961	19	3/4	0	220 00
203514	71562	15	3/4	00	210 00	203522	71962	19	3/4	00	220 00
203515	71563	15	3/4	000	240 00	203523	71963	19	3/4	000	265 00
203516	71564	15	3/4	0000	252 00	203524	71964	19	3/4	0000	280 00

#### TYPE E—FOR FIGURE 8 WIRE

Type E Ears are similar to Type G and have all desirable features. Have great holding power on standard Figure 8 Wire.

203525	81552	15	5/8	00	210 00	203531	81952	19	5/8	00	220 00
203526	81553	15	5/8	000	240 00	203532	81953	19	5/8	000	265 00
203527	81554	15	5/8	0000	252 00	203533	81954	19	5/8	0000	280 00
203528	81562	15	3/4	00	210 00	203534	81962	19	3/4	00	220 00
203529	81563	15	3/4	000	240 00	203535	81963	19	3/4	000	265 00
203530	81564	15	3/4	0000	252 00	203536	81964	19	3/4	0000	280 00

### CLINCH FEED-IN EARS

These ears follow the general features of design of other Drew Ears except that they are provided with vertical or horizontal feeder lugs. Ample contact surface is provided so that the voltage drop is reduced to a minimum. Furnished tinned for soldering. Hole is tapped for No. 00 feeder wire.

#### TYPE R—FOR ROUND WIRE



#### With Vertical Feeder Lug

Trade No.	Mfrs. No.	Lgth. In.	Size Tap, In.	Size Wire	Price per 100
203537	31551	15	5/8	0	\$156 00
203538	31552	15	5/8	00	164 00
203539	31553	15	5/8	000	180 00
203540	31554	15	5/8	0000	190 00
203541	31561	15	3/4	0	156 00
203542	31562	15	3/4	00	164 00
203543	31563	15	3/4	000	180 00
203544	31564	15	3/4	0000	190 00

#### With Horizontal Feeder Lug

Trade No.	Mfrs. No.	Length In.	Size Tap, In.	Size Wire	Price per 100
203545	281551	15	5/8	0	\$156 00
203546	281552	15	5/8	00	164 00
203547	281553	15	5/8	000	180 00
203548	281554	15	5/8	0000	190 00
203549	281561	15	3/4	0	156 00
203550	281562	15	3/4	00	164 00
203551	281563	15	3/4	000	180 00
203552	281564	15	3/4	0000	190 00

#### TYPE G—FOR GROOVED WIRE

203553	41551	15	5/8	0	187 00	203561	291551	15	5/8	0	187 00
203554	41552	15	5/8	00	197 00	203562	291552	15	5/8	00	197 00
203555	41553	15	5/8	000	216 00	203563	291553	15	5/8	000	216 00
203556	41554	15	5/8	0000	228 00	203564	291554	15	5/8	0000	228 00
203557	41561	15	3/4	0	187 00	203565	291561	15	3/4	0	187 00
203558	41562	15	3/4	00	197 00	203566	291562	15	3/4	00	197 00
203559	41563	15	3/4	000	216 00	203567	291563	15	3/4	000	216 00
203560	41564	15	3/4	0000	228 00	203568	291564	15	3/4	0000	228 00

#### TYPE E—FOR FIGURE 8 WIRE

203569	301552	15	5/8	00	197 00	203575	51552	15	5/8	00	197 00
203570	301553	15	5/8	000	216 00	203576	51553	15	5/8	000	216 00
203571	301554	15	5/8	0000	228 00	203577	51554	15	5/8	0000	228 00
203572	301562	15	3/4	00	197 00	203578	51562	15	3/4	00	197 00
203573	301563	15	3/4	000	216 00	203579	51563	15	3/4	000	216 00
203574	301564	15	3/4	0000	228 00	203580	51564	15	3/4	0000	228 00



## DREW RAILWAY LINE MATERIAL

## SCREW CLAMP TROLLEY EARS

For Grooved and Figure 8 Wire

In these ears the utmost holding power and strength are combined with smooth operation. When supplied in malleable, the ears are galvanized by the hot dip process. The same designs are also made in bronze. Zinc coated steel screws are regularly furnished. Brass screws are supplied only on special order at an extra charge.

## TYPE A—THREE SCREW—4-INCH LENGTHS



BRONZE

For Grooved Wire				
Trade No.	Mfrs. No.	Size Tap Inches	Size Wire	Price per 100
203581	31451	5/8	0-00	\$80.00
203582	31453	5/8	000-0000	80.00
203583	31461	3/4	0-00	80.00
203584	31463	3/4	000-0000	80.00

MALLEABLE IRON

203589	50451	5/8	0-00	46.00
203590	50453	5/8	000-0000	46.00
203591	50461	3/4	0-00	46.00
203592	50463	3/4	000-0000	46.00

## For Figure 8 Wire

Trade No.	Mfrs. No.	Size Tap Inches	Size Wire	Price per 100
203585	49452	5/8	00	\$80.00
203586	49453	5/8	000-0000	80.00
203587	49462	3/4	00	80.00
203588	49463	3/4	000-0000	80.00



## TYPE B—FOUR SCREW—8-INCH LENGTHS

BRONZE

203597	52851	5/8	0-00	120.00
203598	52853	5/8	000-0000	120.00
203599	52861	3/4	0-00	120.00
203600	52863	3/4	000-0000	120.00

MALLEABLE IRON

203605	54851	5/8	0-00	58.00
203606	54853	5/8	000-0000	58.00
203607	54861	3/4	0-00	58.00
203608	54863	3/4	000-0000	58.00

203601	53852	5/8	00	120.00
203602	53853	5/8	000-0000	120.00
203603	53862	3/4	00	120.00
203604	53863	3/4	000-0000	120.00

## TYPE C—FOUR SCREW—10-INCH LENGTHS

BRONZE

203613	561051	5/8	0-00	170.00
203614	561053	5/8	000-0000	170.00
203615	561061	3/4	0-00	170.00
203616	561063	3/4	000-0000	170.00

MALLEABLE IRON

203621	581051	5/8	0-00	84.00
203622	581053	5/8	000-0000	84.00
203623	581061	3/4	0-00	84.00
203624	581063	3/4	000-0000	84.00

203617	571052	5/8	.....	170.00
203618	571053	5/8	.....	170.00
203619	571062	3/4	.....	170.00
203620	571063	3/4	.....	170.00

203625	591052	5/8	00	84.00
203626	591053	5/8	000-0000	84.00
203627	591062	3/4	00	84.00
203628	591063	3/4	000-0000	84.00

FEED-IN SCREW CLAMP EARS  
FOR GROOVED AND FIGURE 8 WIRE

These ears are made of bronze with horizontal feeder lug to accommodate 0000 size feeder wire.

Can be furnished tinned, if so desired.

For Grooved Wire				
Trade No.	Mfrs. No.	Lgth. In.	Size Tap, In.	Size Wire
203629	76851	8	5/8	0-00
203630	76853	8	5/8	000-0000
203631	76861	8	3/4	0-00
203632	76863	8	3/4	000-0000

Price per 100

## For Figure 8 Wire

Trade No.	Mfrs. No.	Lgth. In.	Size Tap, In.	Size Wire	Price per 100
203633	77852	8	5/8	00	\$140.00
203634	77853	8	5/8	000-0000	140.00
203635	77862	8	3/4	00	140.00
203636	77863	8	3/4	000-0000	140.00



## DREW RAILWAY LINE MATERIAL

### SAMSON SPLICING EARS

The Samson is installed without special tools, stays upright in the span, cannot make a hard spot in the line, and is non-arcng.

Where a splicing ear is desired, the Samson type meets every requirement of the most critical overhead line superintendent. It is of liberal size throughout. Samson design makes it possible to furnish a sturdy splicing ear without adding undue weight to the span wires.

The trolley is held very firmly. The set screws are placed at a slight angle so that the stresses in the ear are balanced. The Samson Splicing Ear has strength in excess of new wire.

#### For Round Wire



PATENTED, AUG. 20, 1912

Trade No.	Mfrs. No.	Length Inches	Size Tap, In.	Size Wire	Price per 100	Trade No.	Mfrs. No.	Length Inches	Size Tap, In.	Size Wire	Price per 100
203637	191551	15	$\frac{5}{8}$	0	\$301.56	203641	191561	15	$\frac{3}{4}$	0	\$301.56
203638	191552	15	$\frac{5}{8}$	00	323.10	203642	191562	15	$\frac{3}{4}$	00	323.10
203639	191553	15	$\frac{5}{8}$	000	341.80	203643	191563	15	$\frac{3}{4}$	000	341.80
203640	191554	15	$\frac{5}{8}$	0000	356.90	203644	191564	15	$\frac{3}{4}$	0000	356.90

#### For Grooved Wire

203645	201551	15	$\frac{5}{8}$	0	301.56	203649	201561	15	$\frac{3}{4}$	0	301.56
203646	201552	15	$\frac{5}{8}$	00	323.10	203650	201562	15	$\frac{3}{4}$	00	323.10
203647	201553	15	$\frac{5}{8}$	000	341.80	203651	201563	15	$\frac{3}{4}$	000	341.80
203648	201554	15	$\frac{5}{8}$	0000	356.90	203652	201564	15	$\frac{3}{4}$	0000	356.90

#### For Figure 8 Wire

203653	211551	15	$\frac{5}{8}$	0	361.85	203657	211561	15	$\frac{3}{4}$	0	361.85
203654	211552	15	$\frac{5}{8}$	00	387.70	203658	211562	15	$\frac{3}{4}$	00	387.70
203655	211553	15	$\frac{5}{8}$	000	410.15	203659	211563	15	$\frac{3}{4}$	000	410.15
203656	211554	15	$\frac{5}{8}$	0000	428.25	203660	211564	15	$\frac{3}{4}$	0000	428.25

### SAMSON SPLICERS



PATENTED, AUG. 20, 1912

The same superior and exclusive features in design found in the Samson Splicing Ears, listed above, are provided in the Samson Splicer.

The Samson Splicer retains its upright position in the span, is very strong, and has a smooth non-arcng under-run. It is cast from special Samson bronze so as to have strength in excess of new wire and high conductivity. This splicer is very quickly installed and requires no special tools. Recommended for use on wire of any size under the most strenuous operating conditions.

#### For Round Wire

Trade No.	Mfrs. No.	Length Inches	Size Wire	Price per 100	Trade No.	Mfrs. No.	Length Inches	Size Wire	Price per 100
203661	261201	12	0	\$215.35	203663	261203	12	000	\$258.15
203662	261202	12	00	230.75	203664	261204	12	0000	287.70

#### For Grooved Wire

203665	271201	12	0	215.35	203667	271203	12	000	258.15
203666	271202	12	00	230.75	203668	271204	12	0000	287.70

#### For Figure 8 Wire

203669	311201	12	0	258.42	203671	311203	12	000	309.78
203670	311202	12	00	276.90	203672	311204	12	0000	345.24



## DREW RAILWAY LINE MATERIAL

## TROLLEY FROGS—TYPE L



Bottom View



Top View

This Drew Frog, known in previous catalogues as the Long Heavy Type, is used extensively by a great many city and interurban lines on long radius curves. The two divergent runners are four inches longer than those of Type R Frog, which further contributes to positive "take" without "drag" at high speed on long turn-outs.

## TYPE LR

## FOR RIGHT-HAND OPERATION

Bronze					Malleable				
Trade No.	Mfrs. No.	Turn-out Degrees	Size Wire	Price per 100	Trade No.	Mfrs. No.	Turn-out Degrees	Size Wire	Price per 100
203673	267-B	20	0-00	\$1600 00	203681	267-M	20	0-00	\$1100 00
203674	269-B	15	0-00	1600 00	203682	269-M	15	0-00	1100 00
203675	271-B	10	0-00	1600 00	203683	271-M	10	0-00	1100 00
203676	273-B	8	0-00	1600 00	203684	273-M	8	0-00	1100 00
203677	275-B	20	000-0000	1600 00	203685	275-M	20	000-0000	1100 00
203678	277-B	15	000-0000	1600 00	203686	277-M	15	000-0000	1100 00
203679	279-B	10	000-0000	1600 00	203687	279-M	10	000-0000	1100 00
203680	281-B	8	000-0000	1600 00	203688	281-M	8	000-0000	1100 00

## TYPE LL

## FOR LEFT-HAND OPERATION

Bronze					Malleable				
Trade No.	Mfrs. No.	Turn-out Degrees	Size Wire	Price per 100	Trade No.	Mfrs. No.	Turn-out Degrees	Size Wire	Price per 100
203689	266-B	20	0-00	1600 00	203697	266-M	20	0-00	1100 00
203690	268-B	15	0-00	1600 00	203698	268-M	15	0-00	1100 00
203691	270-B	10	0-00	1600 00	203699	270-M	10	0-00	1100 00
203692	272-B	8	0-00	1600 00	203700	272-M	8	0-00	1100 00
203693	274-B	20	000-0000	1600 00	203701	274-M	20	000-0000	1100 00
203694	276-B	15	000-0000	1600 00	203702	276-M	15	000-0000	1100 00
203695	278-B	10	000-0000	1600 00	203703	278-M	10	000-0000	1100 00
203696	280-B	8	000-0000	1600 00	203704	280-M	8	000-0000	1100 00

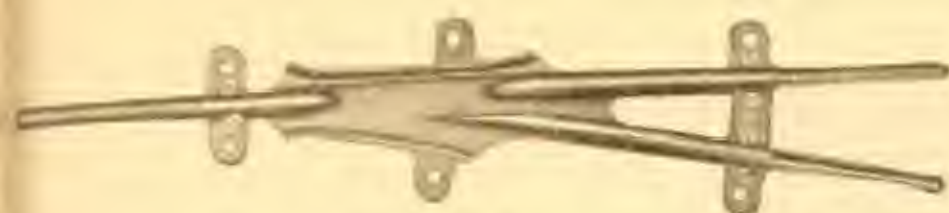
## TYPE LV

This switch has equal length and angle of runners and a flat pan. The operation of the switch is positive. Type LV will be furnished with groove on either side to bias wheel toward right or left turn-out, if specified in order.

Bronze					Malleable				
Trade No.	Mfrs. No.	Angle Degrees	Size Wire	Price per 100	Trade No.	Mfrs. No.	Angle Degrees	Size Wire	Price per 100
203705	282-B	20 V	0-00	\$1600 00	203713	282-M	20 V	0-00	\$1100 00
203706	283-B	15 V	0-00	1600 00	203714	283-M	15 V	0-00	1100 00
203707	284-B	10 V	0-00	1600 00	203715	284-M	10 V	0-00	1100 00
203708	285-B	8 V	0-00	1600 00	203716	285-M	8 V	0-00	1100 00
203709	286-B	20 V	000-0000	1600 00	203717	286-M	20 V	000-0000	1100 00
203710	287-B	15 V	000-0000	1600 00	203718	287-M	15 V	000-0000	1100 00
203711	288-B	10 V	000-0000	1600 00	203719	288-M	10 V	000-0000	1100 00
203712	289-B	8 V	000-0000	1600 00	203720	289-M	8 V	000-0000	1100 00



# DREW RAILWAY LINE MATERIAL



Trolley Frog



Trolley Crossing

## TROLLEY FROGS—TYPE R

Designed to be placed almost directly above the track switch, eliminating the wear on the trolley wire near the approaches and greatly increasing the life of the curve wires. Standard Drew Renewable Approaches are used. The design of the pan is such that the tension on the span wires cannot bend or buckle the frog. Made in all angles for 0 to 0000 round, grooved, or Figure 8 wire.

### FOR RIGHT-HAND OPERATION

Bronze					Malleable				
Trade No.	Mfr. No.	Turn-out Degrees	Size Wire	Price per 100	Trade No.	Mfr. No.	Turn-out Degrees	Size Wire	Price per 100
203721	201-B	20	0-00	\$1250 00	203729	201-M	20	0-00	\$909 00
203722	203-B	15	0-00	1250 00	203730	203-M	15	0-00	909 00
203723	207-B	10	0-00	1250 00	203731	207-M	10	0-00	909 00
203724	209-B	8	0-00	1250 00	203732	209-M	8	0-00	909 00
203725	211-B	20	000-0000	1250 00	203733	211-M	20	000-0000	909 00
203726	213-B	15	000-0000	1250 00	203734	213-M	15	000-0000	909 00
203727	215-B	10	000-0000	1250 00	203735	215-M	10	000-0000	909 00
203728	217-B	8	000-0000	1250 00	203736	217-M	8	000-0000	909 00

### FOR LEFT-HAND OPERATION

203737	202-B	20	0-00	1250 00	203745	202-M	20	0-00	909 00
203738	204-B	15	0-00	1250 00	203746	204-M	15	0-00	909 00
203739	206-B	10	0-00	1250 00	203747	206-M	10	0-00	909 00
203740	208-B	8	0-00	1250 00	203748	208-M	8	0-00	909 00
203741	210-B	20	000-0000	1250 00	203749	210-M	20	000-0000	909 00
203742	212-B	15	000-0000	1250 00	203750	212-M	15	000-0000	909 00
203743	214-B	10	000-0000	1250 00	203751	214-M	10	000-0000	909 00
203744	216-B	8	000-0000	1250 00	203752	216-M	8	000-0000	909 00

## FIXED TROLLEY CROSSINGS

All Drew Crossings are sturdily proportioned. The high ribs and heavy cross sections make them non-buckling under any strain. Standard Drew V tapered renewable approaches are supplied. These protect the curve wires and make smooth, positive arcless action.

### BRONZE

For 0-00 Wire					For 000-0000 Wire				
Trade No.	Mfr. No.	Curve Radius Degree Ft.	Size Wire	Price per 100	Trade No.	Mfr. No.	Curve Radius Degree Ft.	Size Wire	Price per 100
203753	3012-B	90	0-00	\$1200 00	203766	3014-B	90	000-0000	\$1200 00
203754	3022-B	45 35	0-00	1500 00	203767	3024-B	45 35	000-0000	1500 00
203755	3032-B	43 40	0-00	1500 00	203768	3034-B	43 40	000-0000	1500 00
203756	3042-B	41 45	0-00	1500 00	203769	3044-B	41 45	000-0000	1500 00
203757	3052-B	39 50	0-00	1500 00	203770	3054-B	39 50	000-0000	1500 00
203758	3062-B	37 55	0-00	1500 00	203771	3064-B	37 55	000-0000	1500 00
203759	3072-B	35 60	0-00	1500 00	203772	3074-B	35 60	000-0000	1500 00
203760	3082-B	33 65	0-00	1500 00	203773	3084-B	33 65	000-0000	1500 00
203761	3092-B	31 70	0-00	1500 00	203774	3094-B	31 70	000-0000	1500 00
203762	3102-B	30 75	0-00	1500 00	203775	3104-B	30 75	000-0000	1500 00
203763	3112-B	28 80	0-00	1500 00	203776	3114-B	28 80	000-0000	1500 00
203764	3122-B	25 85	0-00	1500 00	203777	3124-B	25 85	000-0000	1500 00
203765	3132-B	23 90	0-00	1500 00	203778	3134-B	23 90	000-0000	1500 00

### MALLEABLE

203779	3012-M	90	0-00	900 00	203792	3014-M	90	000-0000	900 00
203780	3022-M	45 35	0-00	1000 00	203793	3024-M	45 35	000-0000	1000 00
203781	3032-M	43 40	0-00	1000 00	203794	3034-M	43 40	000-0000	1000 00
203782	3042-M	41 45	0-00	1000 00	203795	3044-M	41 45	000-0000	1000 00
203783	3052-M	39 50	0-00	1000 00	203796	3054-M	39 50	000-0000	1000 00
203784	3062-M	37 55	0-00	1000 00	203797	3064-M	37 55	000-0000	1000 00
203785	3072-M	35 60	0-00	1000 00	203798	3074-M	35 60	000-0000	1000 00
203786	3082-M	33 65	0-00	1000 00	203799	3084-M	33 65	000-0000	1000 00
203787	3092-M	31 70	0-00	1000 00	203800	3094-M	31 70	000-0000	1000 00
203788	3102-M	30 75	0-00	1000 00	203801	3104-M	30 75	000-0000	1000 00
203789	3112-M	28 80	0-00	1000 00	203802	3114-M	28 80	000-0000	1000 00
203790	3122-M	25 85	0-00	1000 00	203803	3124-M	25 85	000-0000	1000 00
203791	3132-M	23 90	0-00	1000 00	203804	3134-M	23 90	000-0000	1000 00



## DREW RAILWAY LINE MATERIAL

## LIVE ADJUSTABLE CROSSINGS

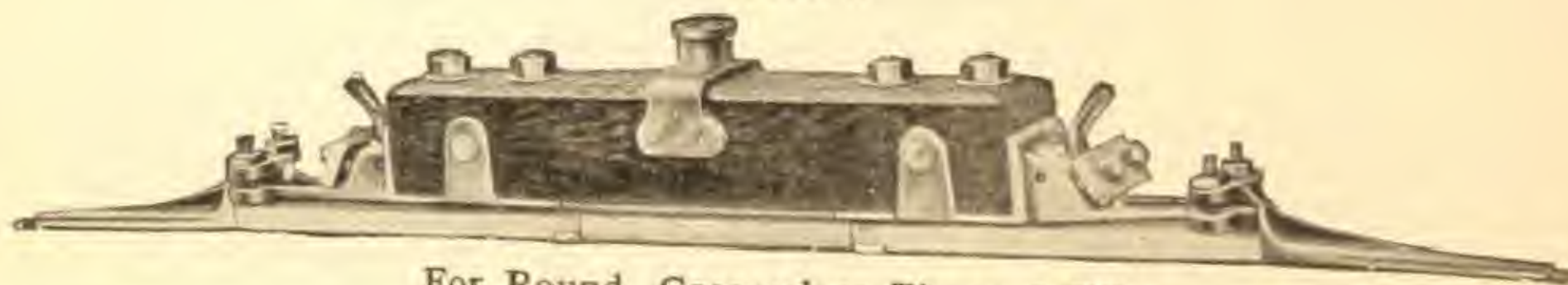


Bronze				Malleable			
Trade No.	Mfrs. No.	Size Wire	Price per 100	Trade No.	Mfrs. No.	Size Wire	Price per 100
203805	3002-B	0-00	\$1600 00	203807	3002-M	0-00	\$1200 00
203806	3004-B	000-0000	1600 00	203808	3004-M	000-0000	1200 00

INSULATED ADJUSTABLE CROSSINGS  
FIXED OR ADJUSTABLE

Length over all of insulated member, 47 inches.  
Energized section, 28 inches.

Bronze				Malleable			
Trade No.	Mfrs. No.	Size Wire	Price per 100	Trade No.	Mfrs. No.	Size Wire	Price per 100
203809	3006-B	0-00	\$3500 00	203811	3006-M	0-00	\$3000 00
203810	3008-B	000-0000	3500 00	203812	3008-M	000-0000	3000 00

SECTION INSULATORS  
TYPE H

For Round, Grooved or Figure 8 Wire

Trade No.	Mfrs. No.	Size Tap In.	Size Wire	Price per 100	Trade No.	Mfrs. No.	Size Tap In.	Size Wire	Price per 100
203813	70052	5/8	0-00	\$2000 00	203815	70062	3/4	0-00	\$2000 00
203814	70054	5/8	000-0000	2000 00	203816	70064	3/4	000-0000	2000 00

TRIPLE BEAM INSULATORS  
For Round, Grooved, or Figure 8 Wire

Bronze					Malleable				
Trade No.	Mfrs. No.	Size Tap In.	Size Wire	Price per 100	Trade No.	Mfrs. No.	Size Tap In.	Size Wire	Price per 100
203817	60051-B	5/8	0	\$2300 00	203825	60051-M	5/8	0	\$1800 00
203818	60052-B	5/8	00	2300 00	203826	60052-M	5/8	00	1800 00
203819	60053-B	5/8	000	2300 00	203827	60053-M	5/8	000	1800 00
203820	60054-B	5/8	0000	2300 00	203828	60054-M	5/8	0000	1800 00
203821	60061-B	3/4	0	2300 00	203829	60061-M	3/4	0	1800 00
203822	60062-B	3/4	00	2300 00	203830	60062-M	3/4	00	1800 00
203823	60063-B	3/4	000	2300 00	203831	60063-M	3/4	000	1800 00
203824	60064-B	3/4	0000	2300 00	203832	60064-M	3/4	0000	1800 00



# DREW RAILWAY LINE MATERIAL

## TYPE N LINE SUSPENSIONS

Malleable Iron, Galvanized

### CURVE SUSPENSIONS FOR SINGLE TROLLEY



Nos. 605 and 606



Nos. 615 and 616

Single Curve				Double Curve			
Trade No.	Mfrs. No.	Size Bolt Inches	Price per 100	Trade No.	Mfrs. No.	Size Bolt Inches	Price per 100
203833	605	5/8	\$ 90.00	203835	615	5/8	\$145.00
203834	606	3/4	105.00	203836	616	3/4	160.00

### STRAIGHT LINE SUSPENSIONS



Nos. 625 and 626



Nos. 665 and 666

For Single Trolley				For Double Trolley			
Trade No.	Mfrs. No.	Size Bolt Inches	Price per 100	Trade No.	Mfrs. No.	Size Bolt Inches	Price per 100
203837	625	5/8	\$110.00	203839	665	5/8	\$215.00
203838	626	3/4	125.00	203840	666	3/4	245.00

### CURVE SUSPENSIONS FOR DOUBLE TROLLEY



Nos. 635 and 636



Nos. 645 and 646

Single Curve				Double Curve			
Trade No.	Mfrs. No.	Size Bolt Inches	Price per 100	Trade No.	Mfrs. No.	Size Bolt Inches	Price per 100
203841	635	5/8	\$185.00	203843	645	5/8	\$270.00
203842	636	3/4	215.00	203844	646	3/4	300.00

Strain insulators are not included with the above line suspensions.



Nos. 115 and 116

## FEED-IN HANGERS

These hangers are made of bronze and are used on energized copper span wires instead of the usual insulated hanger.



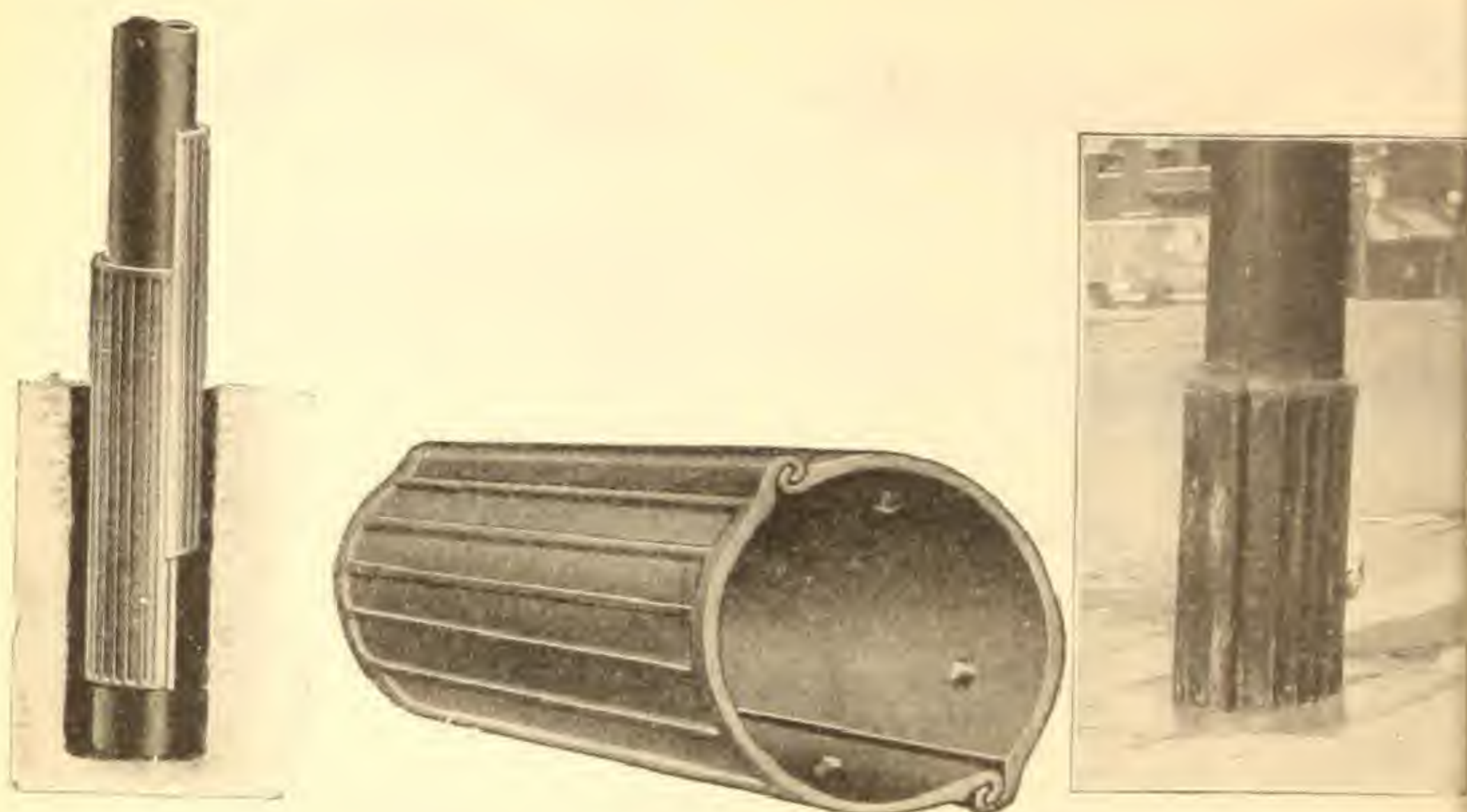
Nos. 105 and 106

Trade No.	Mfrs. No.	Description	Diam. Stud In.	Price per 100
203845	115	Syracuse	5/8	\$90.00
203846	116	Syracuse	3/4	100.00
203847	105	Grover	5/8	170.00
203848	106	Grover	3/4	180.00



## DREW RAILWAY LINE MATERIAL

## PROTECTIVE AND RECLAIMING POLE SLEEVES



The Drew Pole Sleeve is a thoroughly practical and satisfactory device for the rejuvenation of old steel poles corroded at the ground line. The first cost is low and but little labor is required as the sleeves are installed without disturbing the overhead in any way.

Practically every large city property is now using Drew Pole Sleeves. The resultant saving runs into hundreds of thousands of dollars.

The sleeve is made of heavy malleable iron thirty inches long with  $\frac{3}{8}$ -inch walls heavily ribbed. The self-locking halves are slipped together at the ends and driven to place around the butt of the pole by a few blows with a sledge. This makes a perfect fit. Four  $\frac{3}{8}$ -inch lugs near the top and the same number of lugs near the bottom provide equal spacing around the pole and permit filling the space between the sleeve and the pole with cement, which is poured into the space in a thin mixture. This gives a bonded, uniform bearing surface that equalizes the strain over the entire length of the sleeve.

It is well known that malleable iron is far more rust resisting than steel. An application of Drew Pole Sleeves on new work is almost perpetual protection against corrosion.

Trade No.	Mfr. No.	Description	Price Each
203849	1075	For 3, 4, and 5-inch standard poles	\$7.65
203850	1076	For 4, 5, and 6-inch standard poles	8.50
203851	1077	For 5, 6, and 7-inch standard poles	10.20
203852	1078	For 6, 7, and 8-inch standard poles	11.70



## DREW RAILWAY LINE MATERIAL

### CROSS SPAN HANGER TOOLS



This simple, low-priced tool, sometimes called a "throw-in" wrench, should be on every line wagon. The curved point hooks over the span wire and the forked end is brought against the arm of the hanger. With this leverage, a hanger is slipped on or off the span instantly without any exertion. Length, 2½ feet.

Trade No.	Mfrs. No.	Description	Price Each
203853	100	Forged Steel.....	\$9.00

### STRIPPING CHISELS



This widely used tool is for removing ears from the trolley wire. The under side as shown in the illustration is milled to a semi-circle. The sharp point is started under the lips of the clinched ear and driven through with a hammer without nicking or damaging the wire. If they are Drew Ears and not too badly worn, they can be used again.

Trade No.	Mfrs. No.	Description	Price Each
203854	102	Stripping chisel.....	\$4.50

### CLINCHING IRONS



The use of the Drew Clinching Iron enables the lineman to clinch the lips of the ear around the wire quickly, and make a smooth, tight job.

The holes shown in the illustration are bored through at the proper angle for bending the wire in putting up splicers. This latter feature saves a lot of time and hard work, and insures a good fit in the splice.

Trade No.	Mfrs. No.	Description	Price Each
203855	101	Clinching iron.....	\$3.00

### TROLLEY WIRE CLAMPS



The Drew Trolley Wire Clamp is the best "come-along" for use in general line work. The steel tapered bar is grooved on the under side. The wire is laid in the slot of the block casting under the wedge. The harder the pull, the tighter the grip. The surfaces are smooth and do not mar the wire. A blow with hammer after strain is removed releases the grip. Two of these clamps on a pair of blocks make a valuable part of every line outfit. Made in two sizes.

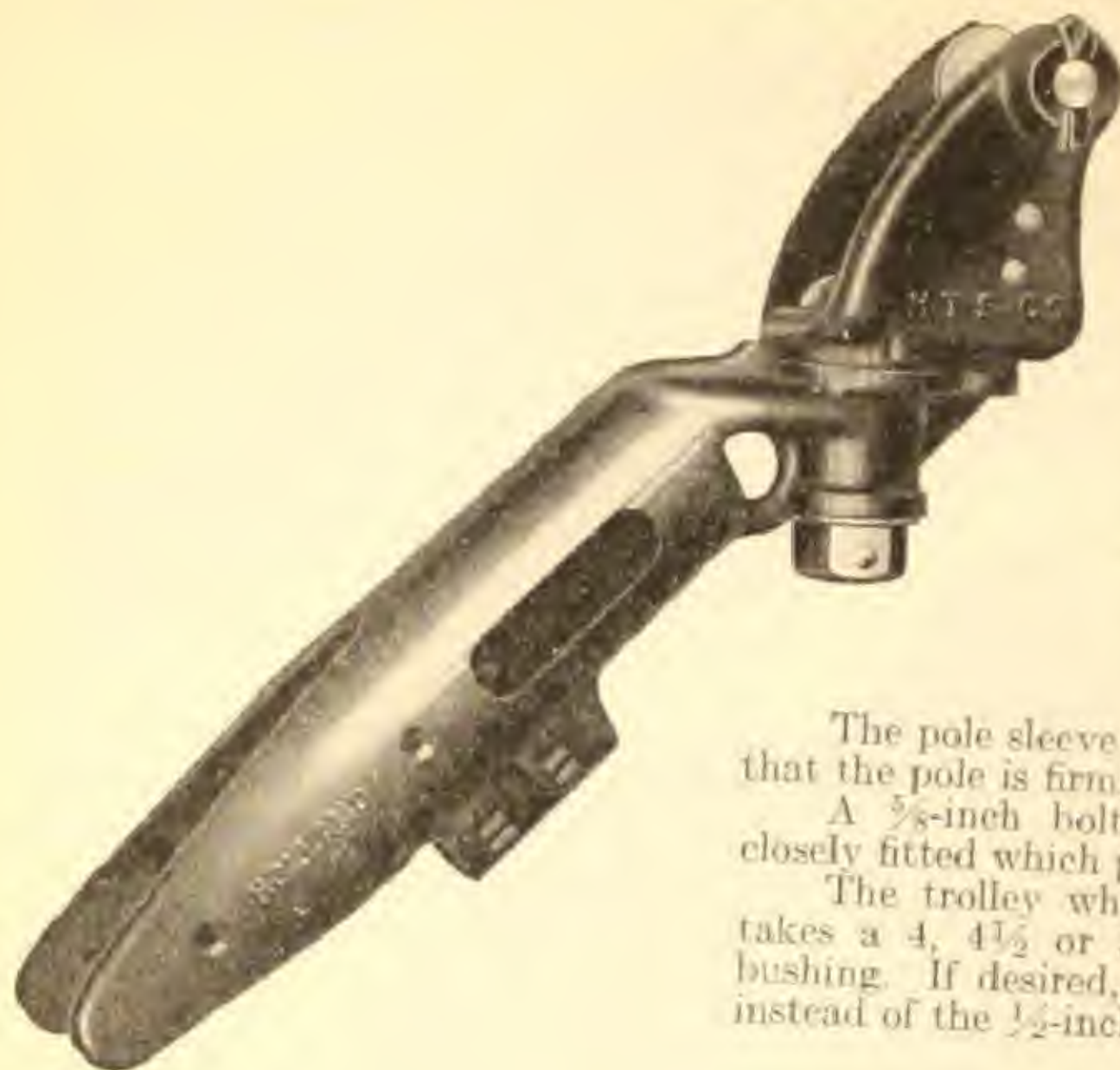
Trade No.	Mfrs. No.	Description	Price Each
203856	103	For 0-00 wire.....	\$7.50
203857	104	For 000-0000 wire.....	7.50



## HOLLAND MINE TROLLEY HARPS AND WHEELS

## MINE TROLLEY HARPS

For Mine Locomotives



The Holland Mine Harp has phosphor bronze contacts, which are copper-riveted to each side of the harp, which carry the current from the wheel over the bearing to the harp, thus increasing the life of both harp and wheel.

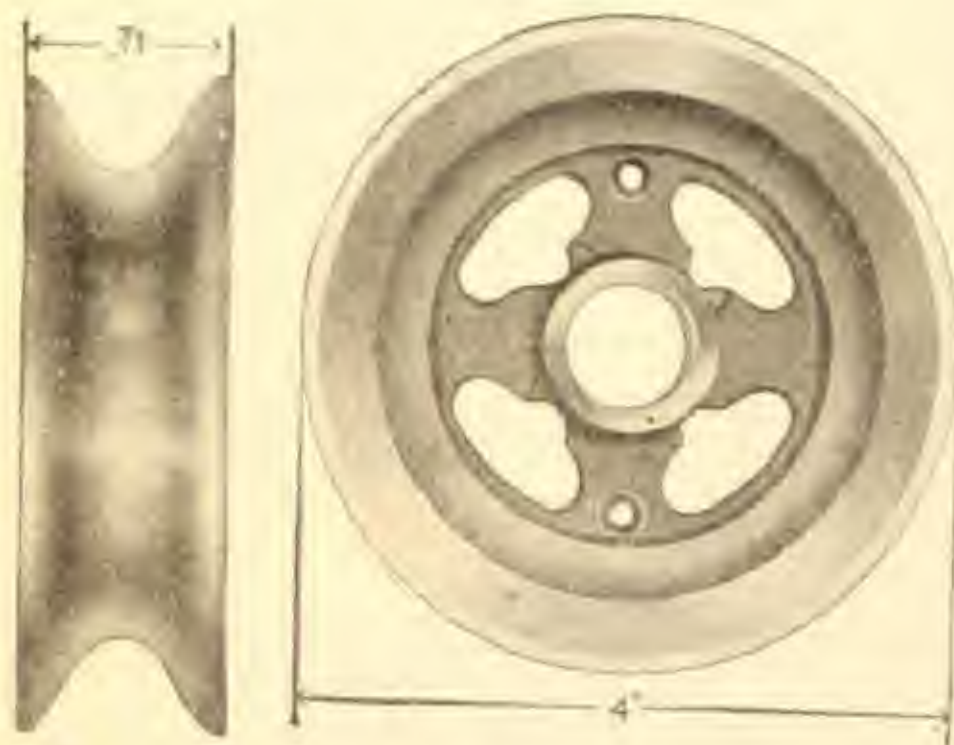
It has a long lateral swivel, and the shoulder stops prevent it turning all the way round. It has a spring so that after making a curve it returns the harp to a normal position.

The current is taken from the harp through a cable connection which is cast as a part of the harp—having one large opening with two set screws.

The pole sleeve is long and is made in such a manner that the pole is firmly held and re-enforced.

A  $\frac{5}{8}$ -inch bolt fastens the harp together and is closely fitted which prevents arcing and pitting.

The trolley wheel axle is  $\frac{1}{2}$ -inch solid. The harp takes a 4,  $4\frac{1}{2}$  or 5-inch wheel fitted with a graphite bushing. If desired,  $\frac{5}{8}$  or  $\frac{3}{4}$ -inch axle can be furnished instead of the  $\frac{1}{2}$ -inch.



## MINE TROLLEY WHEELS

For Holland and Other Standard Mine Harps

Holland Mine Trolley Wheels outwear other standard makes of wheels for several reasons; first, because they are made from a well tested, true bronze formula, and new metal is always used in their composition. The right proportions of metal make these wheels very tough thus giving a maximum of mileage with a minimum of wear on the overhead wire.

They are fitted with Bound Brook graphite bushings for a  $\frac{1}{2}$ -inch harp axle but can be bushed to fit  $\frac{5}{8}$  or  $\frac{3}{4}$ -inch axle if desired.

Trade No.	Mfrs. No.	Diam. Inches
129835	9	4
129836	36	4
129837	33	4
129838	20	4
129839	25	$4\frac{1}{4}$
129840	28	$4\frac{1}{2}$
129841	35	$4\frac{1}{2}$
129842	38	5

Description
Spoked, V groove, with oil chamber
Spoked, V groove, with oil chamber
Spoked, U groove, with oil chamber
Solid, U groove, with oil chamber
Solid, U groove, with oil chamber
Spoked, V groove, with oil chamber
Spoked, U groove, with oil chamber
Spoked, U groove, with oil chamber

Prices Quoted on Application.



## GRAPHITE TROLLEY WHEEL BUSHINGS

Trade No.	Size Inches	Price Each
129843	$\frac{1}{2} \times \frac{7}{8} \times 1\frac{1}{2}$	\$0.50



## HOLLAND TROLLEY BASES

### No. 3 BALL-BEARING BASE

Base, 16 inches wide. Has forty-two 1-inch balls. Bearings, self-cleaning. Ball-bearing diameter,  $13\frac{1}{2}$  inches. Weight of base, 100 pounds. Tension, 15 to 50 pounds. Pole socket, 24 inches deep.

This is a single-acting base that works well either way. Requires only 7 inches with pole down. Has shouldered side rods so that spring coils cannot be tightened enough to cause breakage when pole is pulled down to car roof. Fulcrum is arranged to give full tension at working point but little tension when pole approaches horizontal.

### No. 4 BALL-BEARING BASE

With pole down the base is only  $2\frac{3}{4}$  inches high. Base is 16 inches diameter at running board; has forty-two 1-inch balls; bearing diameter,  $13\frac{5}{8}$  inches. In normal position base is 40 inches long; with pole horizontal, 54 inches long. Radius of swing, 30 inches. Weight, 120 pounds. Tension, 10 to 50 pounds.

This base has a pole clamp of improved design, fastening with a set screw. Pole socket is 12 inches. It has also a handy locking-down device. The two compression springs act as a cushion if trolley is thrown from wire.

### No. 5 BALL-BEARING BASE

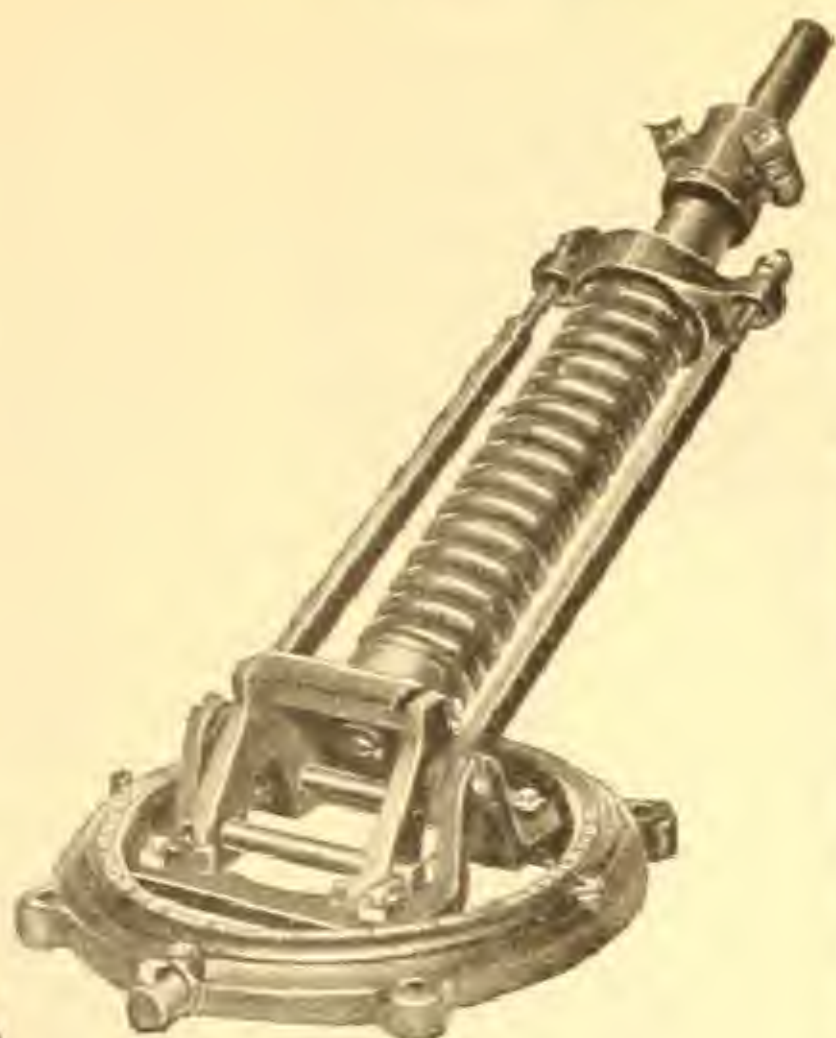
Designed for city and light interurban service. Low,  $3\frac{1}{2}$  inches; base,  $12\frac{1}{4}$  inches in diameter; bearings,  $7\frac{3}{8}$  inches. Has twenty-two 1-inch balls. Normal length, 38 inches; with pole horizontal, 48 inches. Radius of swing,  $31\frac{1}{2}$  inches. Weight, 90 pounds. Pole socket,  $9\frac{1}{2}$  inches. Tension, 10 to 50 pounds.

Has four large oil holes or chambers for grease, covered by the dust ring. Terminal cable connections same as in No. 4 base. It has the same handy pole clamp and locking-down device as the No. 4.

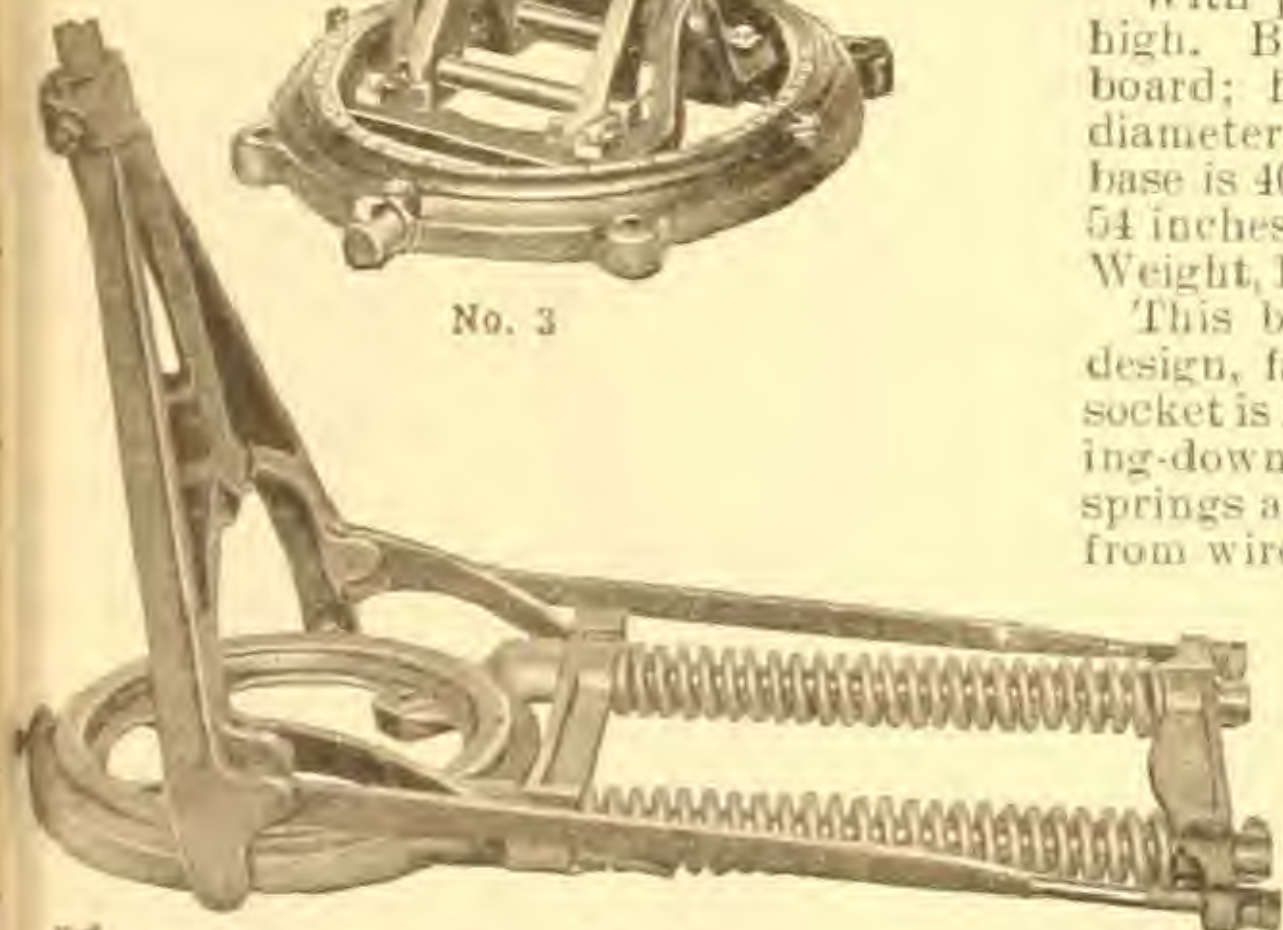
### No. 7 BALL AND ROLLER-BEARING BASE

The sub-base is the same as the Holland Anti-Friction Pin Plate. Has fifteen hardened steel rollers and eight  $\frac{3}{4}$ -inch balls. Diameter of pin plate, 12 inches. Bottom of plate is a grease chamber  $3\frac{1}{8}$  inches deep. Normal length of base, 28 inches; with pole down, 40 inches; height over all, 17 inches. Weight, 110 pounds. Tension, 10 to 50 pounds.

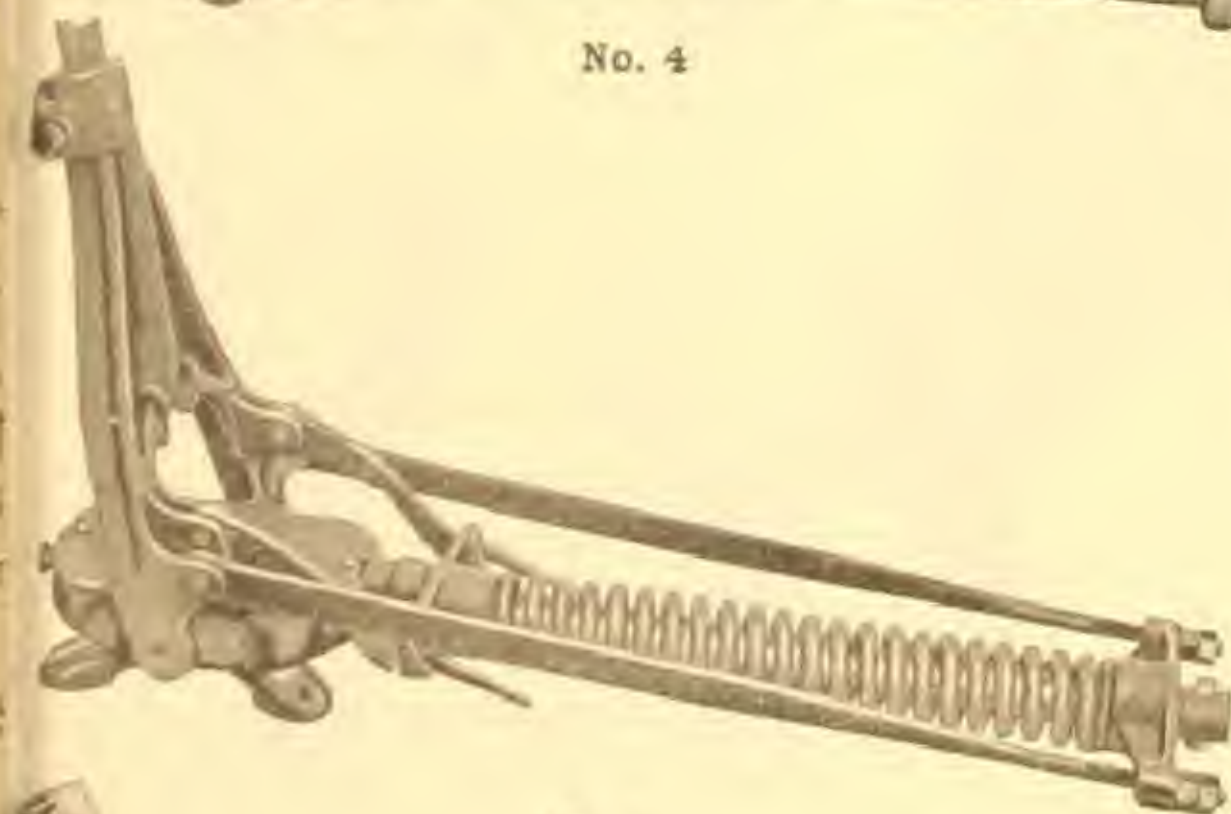
This base has simple, strong pole clamp with one screw. Pole socket, 10 inches, unusually long. One long spring—better than two short ones. Side rods  $\frac{1}{2}$  inch by 1 inch forged, stronger than usual side rods. Simple locking-down device. Current is taken from the surface of base and does not pass through bearings.



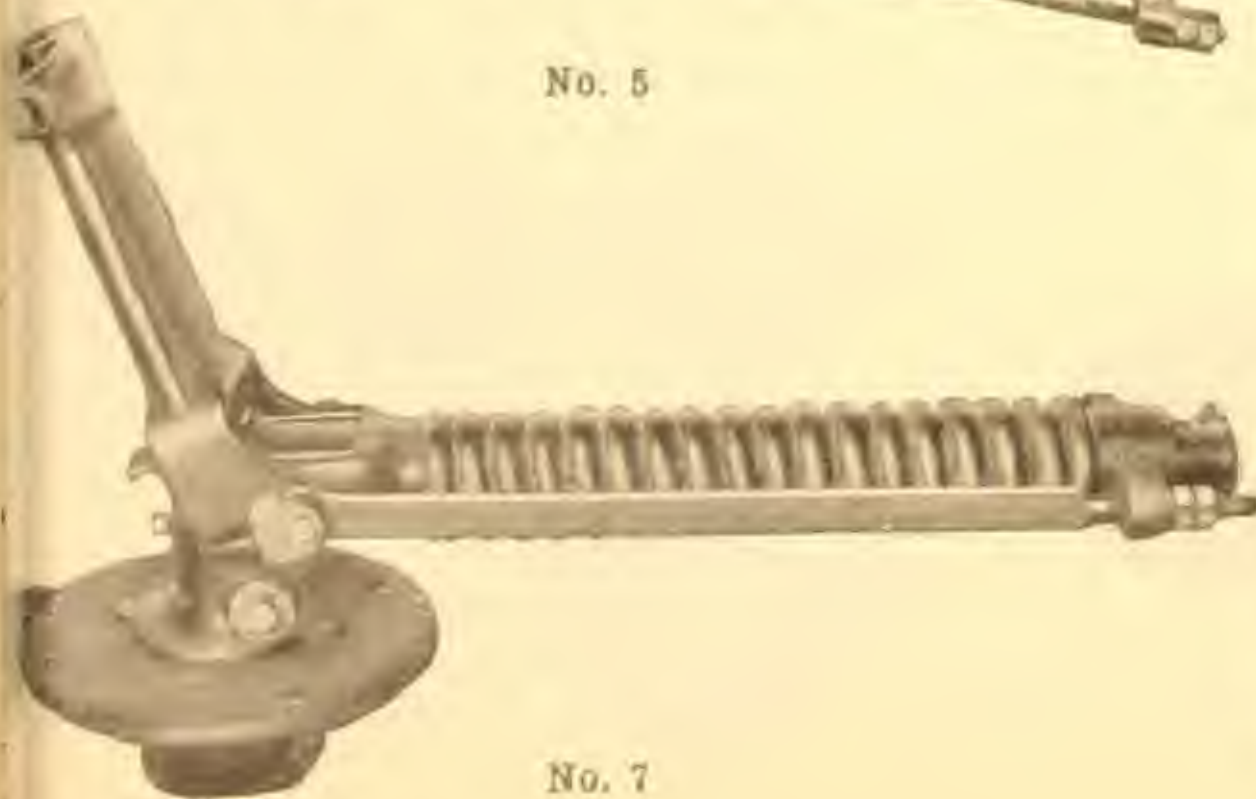
No. 3



No. 4



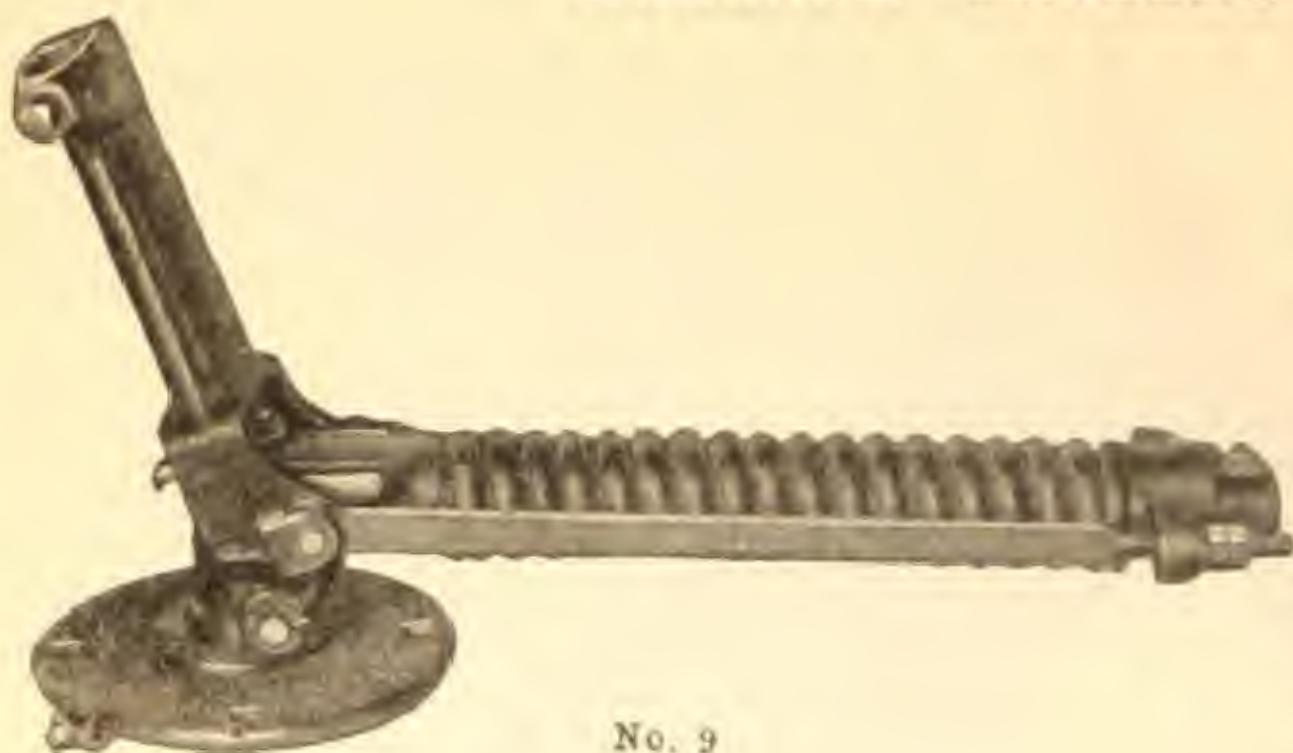
No. 5



No. 7



## HOLLAND TROLLEY BASES



No. 9



No. 18



Pin Base

## No. 9 PLAIN PIN BASE

Has hardened cold-rolled steel pin encased in  $\frac{1}{4}$ -inch brass bushing, loose fit, so that bushing turns and takes equal wear all around.

Diameter, 12 inches. Normal length; 28 inches; with pole down 40 inches. Height, 17 inches. Radius of swing, 22 inches. Weight, 95 pounds. Tension, 10 to 50 pounds.

This is the lowest priced Holland Base. It has the simple but strong Holland Pole Clamp, simple locking-down device, strong spring and side rods. Pole socket, 10 inches.

The brass bushing is pierced with numerous holes for lubricant, and when worn can be easily and quickly replaced.

## No. 18 MINE BASE

This base is made either with angle fastening plate for attachment at side of car or with flat plate base for top of car.

Diameter over all, 10 inches; of fastening plate, 8 inches. Height, with pole down, 7 inches. Pin plate for top of car, 12 inches diameter. Weight of base, 95 pounds.

This base is used on mine cars and on bonding and track machine cars for street railways. When ordering, be sure to specify the type of fastening plate desired.

## ANTI-FRICTION PIN PLATE

A sub-base for use with standard bases Nos. 1, 3, 5, 6 and 8. Converts an ordinary base into a ball-bearing base at half the cost of a new base. Has fifteen hardened steel rollers on which pin turns, and eight  $\frac{3}{4}$ -inch steel balls supporting the pin. Current is taken from the surface and does not pass through bearings. A cored chamber holds lubricant enough for six months. Inspection and overhauling once or twice a year is recommended.

Holland Anti-Friction Pin Plates are made with any size pins to fit sockets of standard bases named above.



No. 1



No. 3



No. 5



No. 6



No. 8



# KALAMAZOO TROLLEY HARPS

MALLEABLE IRON



No. 1



No. 2



No. 3



No. 4



No. 5

## FOR 6-INCH WHEELS



No. 8



No. 219

Trade  
No.

089764

Description

No. 1 1-in. hole in shank; 1 1/2 in. between washers; 5/8-in. cold-rolled steel pin; washer No. 133; spring No. 2 9. Other dimensions to order; 3/4-in. pin No. 6; 3/4-in. washer No. 134.

089765

No. 2 3/4-in. rod in shank; 1 1/2 in. between washers; 5/8-in. cold-rolled steel pin; washer No. 133; spring No. 219. Other dimensions to order; 3/4-in. pin No. 6; 3/4-in. washer No. 134.

089766

No. 3 3/4-in. rod in shank; 1 1/2 in. between washers; 5/8-in. cold-rolled steel pin; washer No. 130; spring No. 218.

089767

No. 4 1-in. hole in shank; 2 in. between washers; 5/8 or 3/4-in. pin; washer No. 133; spring No. 219. Other dimensions to order; 3/4-in. pin No. 4; 3/4-in. washer No. 134.

## FOR 5-INCH WHEELS

089768

No. 5 3/4-in. rod in shank; 1 1/2 in. between washers; 1/2-in. cold-rolled steel pin; 5/8-in. pin to order; washer No. 129, for 1/2-in. pin; washer No. 130, for 5/8-in. pin; spring No. 218.

## FOR 4-INCH WHEELS

089769

No. 8 3/4-in. rod in shank; 1 1/2 in. between washers; 1/2-in. cold-rolled steel pin; 5/8-in. pin to order; washer No. 129, for 1/2-in. pin; washer No. 130, for 5/8-in. pin; spring No. 214.

## SPRINGS

089775

No. 219. For Nos. 1, 2, and 4 harps.

089776

No. 218. For Nos. 3 and 5 harps.

089777

No. 214. For No. 8 harps.

## WASHERS

089770

No. 125. Plain; 1/16 in. thick; diam. 1 1/4 in.

089771

No. 126. Plain; 3/16 in. thick; diam. 1 1/4 in.

## For Nos. 5 and 8 Harps

089772

No. 129. 1/2-in. pin; diam. 1 5/16 in.

## For Nos. 3, 5 and 8 Harps

089773

No. 130. 5/8-in. pin; diam., 1 3/8 in.

## For Nos. 1, 2 and 4 Harps

089774

No. 133. Diameter, 1 9/16 inches.

No. 134. 3/4-in. pin; diam. 1 5/8 in.

Prices quoted on application



No. 218

For Nos. 3 and 5 Harp



No. 214

For No. 8 Harp



No. 125



No. 126



No. 129



No. 130



No. 133



## KALAMAZOO TROLLEY WHEELS



No. 5



No. 19



## No. 19, MEDIUM SIZE, WITH OIL CHAMBER



No. 15



Trade No.	Diam. Inches	Width Inches	Depth of Groove Inches	Length of Hub Inches
089802	5 $\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{7}{8}$	2

Graphite bushing for  $\frac{5}{8}$ -inch pin.

## No. 5, V GROOVE

089803	5	1 $\frac{3}{8}$	$\frac{3}{4}$	1 $\frac{1}{2}$
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Graphite bushing for  $\frac{1}{2}$ -inch pin.Graphite bushing for  $\frac{5}{8}$ -inch pin, to order.

## No. 15, U GROOVE

089804	5	1 $\frac{3}{8}$	$\frac{3}{4}$	1 $\frac{1}{2}$
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Graphite bushing for  $\frac{1}{2}$ -inch pin.Graphite bushing for  $\frac{5}{8}$ -inch pin, to order.

## No. 7, STANDARD, U GROOVE

089805	4	1 $\frac{3}{8}$	$\frac{3}{4}$	1 $\frac{1}{2}$
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Graphite bushing for  $\frac{1}{2}$ -inch pin.Graphite bushing for  $\frac{5}{8}$ -inch pin, to order.

## No. 8, STANDARD, V GROOVE

089806	4	1 $\frac{3}{8}$	$\frac{3}{4}$	1 $\frac{1}{2}$
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Graphite bushing for  $\frac{1}{2}$ -inch pin.Graphite bushing for  $\frac{5}{8}$ -inch pin, to order.

## No. 9, EXTRA DEEP GROOVE

089807	4	1 $\frac{3}{8}$	$\frac{7}{8}$	1 $\frac{1}{2}$
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Graphite bushing for  $\frac{1}{2}$ -inch pin.Graphite bushing for  $\frac{5}{8}$ -inch pin, to order

## GRAPHITE BUSHINGS



No. 9



Trade No.	Mfrs. No.	Outside Diameter Inches	Length Inches	Size Hole Inches
089808	1	$\frac{7}{8}$	1 $\frac{1}{2}$	$\frac{1}{8}$
089809	2	1	1 $\frac{1}{2}$	$\frac{5}{16}$
089810	3	1	2	$\frac{5}{16}$
089811	4	1 $\frac{1}{8}$	1 $\frac{1}{2}$	$\frac{3}{4}$
089812	5	1 $\frac{1}{8}$	2	$\frac{3}{4}$
089813	6	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1

Order by number.

Prices quoted on application.



# KALAMAZOO TROLLEY WHEELS



No. 1



No. 2



## No. 1, V GROOVE

Grade No.	Diam. Inches	Width Inches	Depth of Groove Inches	Length of Hub Inches
089818	6	13 $\frac{3}{8}$	$\frac{3}{4}$	11 $\frac{1}{2}$

Graphite bushing for  $\frac{5}{8}$ -inch pin. Other dimensions to order. Graphite bushing for  $\frac{3}{4}$  or 1-inch pin. Length of hub, 2 inches.



No. 3



## No. 2, U GROOVE

089819	6	13 $\frac{3}{8}$	$\frac{3}{4}$	11 $\frac{1}{2}$
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Graphite bushing for  $\frac{5}{8}$ -inch pin. Other dimensions to order. Graphite bushing for  $\frac{3}{4}$  or 1-inch pin. Length of hub, 2 inches.

## No. 3, DEEP GROOVE

089820	6	11 $\frac{1}{2}$	1	11 $\frac{1}{2}$
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Graphite bushing for  $\frac{5}{8}$ -inch pin. Other dimensions to order. Graphite bushing for  $\frac{3}{4}$  or 1-inch pin. Length of hub, 2 inches.

## No. 4, EXTRA WIDE GROOVE, LONG HUB

089821	6	17 $\frac{1}{8}$	1	2
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Graphite bushing for  $\frac{5}{8}$ -inch pin. Graphite bushing for  $\frac{3}{4}$  or 1-inch pin, to order.



No. 17



## No. 17, MEDIUM SIZE, WITHOUT OIL CHAMBER

089822	5 $\frac{3}{4}$	11 $\frac{1}{2}$	$\frac{3}{8}$	2
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Graphite bushing for  $\frac{5}{8}$ -inch pin. Without bushing, to order.

Order by number.

Prices quoted on application.



## NORTHERN ELECTRIC DAVIS FLOODLIGHTS



Finishing Work of Connaught  
Tunnel C. P. R. Glacier, B. C.



An Installation Providing Utility  
Protection and Display Combined

These floodlights have been successfully applied to a great variety of outdoor activities, both constructive and recreative. A useful well diffused form of lighting is provided at very low maintenance cost and by a relatively small investment. Equivalent results would be very difficult and in many installations impossible to obtain by other methods of lighting.

A few important applications are lighting of railway yards and roundhouses, mining operations, excavations and other outdoor construction work; railway sidings and shipping platforms and protection and display of industrial plants; also resorts, in the lighting of piers and beaches, parks and playgrounds.



Bassano Dam Near Calgary Lighted by One Floodlight

200-watt Flood  
Mounting and

There are  
below:

Two hundred  
generally reason  
set in length.

Five hundred  
generally reason  
20 feet in length.

These units  
ended for mon

The above  
axes. For high  
given.

All three size  
mountings are re



## NORTHERN ELECTRIC DAVIS FLOODLIGHTS



200-watt Floodlight Equipped with Base Mounting and Hammered Glass Reflector



1000-watt Floodlight, Equipped with Bracket Mounting and Plain Reflector

There are three standard sizes of these floodlights for comparative applications as listed below:

### Utility Lights or 200-watt Units

Two hundred watt units are for use with 150-watt PS-25 and 200-watt PS-30 Mazda lamps, generally recommended for mounting heights of from 15 to 25 feet, for lighting areas under 200 feet in length.

### Medium or 500-watt Unit

Five hundred watt units for use with either 300-watt PS-35 or 500-watt PS-40 Mazda lamps, generally recommended for mounting heights of from 30 to 50 feet, for lighting areas from 200 to 500 feet in length.

### Large or 1000-watt Units

These units for use with either 750-watt or 1000-watt PS-52 Mazda lamps, generally recommended for mounting heights from 50 to 80 feet, for lighting areas above 500 feet in length.

The above recommendations as to applications are for average outdoor construction operations. For high intensity of lighting and particular applications special recommendations will be given.

All three sizes can be furnished with either base or bracket mounting as required. The two mountings are readily interchangeable.



## IMPERIAL INCANDESCENT HEADLIGHTS

FOR CITY SERVICE

## TYPE Z

Flush Mounting—Cast-Iron Case

Takes 23 to 56-Watt Regular Filament or 23 to 94-Watt Focus Type Mazda Lamp

Type Z headlight is for flush mounting on dash. An 11-inch hole is necessary for mounting this headlight, the body of which is inserted in the hole and fastened in position by six bolts.

The headlight is compact and neat in design. Both case and door frame are of cast iron finished in weather-proof black enamel. The door is hinged at the top so as to close by gravity and is held shut by a spring catch at the bottom.

Type Z headlight will fit any standard car dash whose radius of curvature is 5 to 7 feet.



Front View  
With Clear Glass in Plain Door



Side View



With Grid Door



Front View  
With Clear Semaphore Lens in Regular Door



Side View



With Semaphore Lens and Guard Door

## Alternative Adjustment

The standard adjustment for this headlight is for a 23 to 56-watt regular filament Mazda lamp. If specified on the order, headlight will be equipped with socket extension HL1550 and adjusted for 23 to 94-watt focus type Mazda lamp.



## IMPERIAL INCANDESCENT HEADLIGHTS

FOR CITY SERVICE

TYPE Z

Flush Mounting—Cast-Iron Case

Takes 23 to 56-Watt Regular Filament or 23 to 94-Watt Focus Type Mazda Lamp

### With Clear Glass in Plain Door

Cast-Iron Case

Diameter Reflector	Style of Reflector	Catalog Number	Shipping Weight	*List Price Each
9 3/4 Inches	Headlight with Polished Aluminum Reflector	24110	30 lbs.	\$10.50
	Headlight with White Enameled Steel Reflector	24151	30 lbs.	10.50
	Headlight with Nickel-plated Copper Reflector	28533	30 lbs.	11.50

### With Clear Glass in Grid Door

Cast-Iron Case

Diameter Reflector	Style of Reflector	Catalog Number	Shipping Weight	*List Price Each
9 3/4 Inches	Headlight with Polished Aluminum Reflector	24112	30 lbs.	\$11.20
	Headlight with White Enameled Steel Reflector	24153	30 lbs.	11.20
	Headlight with Nickel-plated Copper Reflector	28645	30 lbs.	12.20

### With Clear Semaphore Lens in Regular Door

Cast-Iron Case

Diameter Lens	Style of Reflector	Catalog Number	Shipping Weight	*List Price Each
8 3/8 Inches	Headlight with Polished Aluminum Reflector	24114	33 lbs.	\$14.00
	Headlight with White Enameled Steel Reflector	24155	33 lbs.	14.00
	Headlight with Nickel-plated Copper Reflector	28534	33 lbs.	15.00

### With Clear Semaphore Lens in Guard Door

Cast-Iron Case

Diameter Lens	Style of Reflector	Catalog Number	Shipping Weight	*List Price Each
8 3/8 Inches	Headlight with Polished Aluminum Reflector	24118	33 lbs.	\$14.70
	Headlight with White Enameled Steel Reflector	24159	33 lbs.	14.70
	Headlight with Nickel-plated Copper Reflector	28646	33 lbs.	15.70

If socket extension HL1550 is desired, add \$0.60 to list price.

Net weight—With clear glass in door, 20 pounds; with semaphore lens in door, 23 pounds. Shipping dimensions: 17 x 15 x 10 inches.

If specified on the order, any of the following colored glasses or lenses will be furnished with above headlights at the quoted advances in list prices: "Noglaré" semaphore lens or glass at an advance of \$4.50. Blue, green or ruby semaphore lens or glass, prices on application.

Above list prices do not include incandescent lamps.



## IMPERIAL INCANDESCENT HEADLIGHTS

FOR CITY SERVICE

TYPE ZB

Flush Mounting—Cast-Iron Case

Takes 23 to 56-Watt Regular Filament or 23 to 94-Watt Focus Type Mazda Lamp

Type ZB headlight is arranged for flush mounting. It is made in three parts—body, clamping ring and door, all cast iron. When mounted, the body of the headlight is placed against the rear of the dash, and the clamping ring and door on the front. Body and clamping ring are fastened in place by eight bolts which pass through the ring, dash and flange on the headlight body.

This construction meets the demand for a headlight that can be mounted on a dash previously cut for a headlight of other manufacture, where the hole is not more than ten inches in diameter. No reinforcing ring is needed to mount a type ZB headlight on a wooden dash.

Type ZB headlight will fit any standard car dash whose radius of curvature is 5 to 7 feet.



Front  
With Clear Glass in Plain Door



Side



With Grid Door



Front  
With Clear Semaphore Lens in Regular Door



Side



With Semaphore Lens and Guard Door

## Alternative Adjustment

The standard adjustment for this headlight is for a 23 to 56-watt regular filament Mazda lamp. If specified on order, the headlight will be equipped with socket extension HL1550, and adjusted for 23 to 94-watt focus type Mazda lamp.



# IMPERIAL INCANDESCENT HEADLIGHTS

## FOR CITY SERVICE

### TYPE ZB

Flush Mounting—Cast-Iron Case

Takes 23 to 56-Watt Regular Filament or 23 to 94-Watt Focus Type Mazda Lamp

### With Clear Glass in Plain Door

Cast-Iron Case

Diameter Reflector	Style of Reflector	Catalog Number	Shipping Weight	*List Price Each
9 <sup>3</sup> / <sub>4</sub> Inches	Headlight with Polished Aluminum Reflector	24801	30 lbs.	\$11.20
	Headlight with White Enameled Steel Reflector	24851	30 lbs.	11.20
	Headlight with Nickel-plated Copper Reflector	28535	30 lbs.	12.20

### With Clear Glass in Grid Door

Cast-Iron Case

Diameter Reflector	Style of Reflector	Catalog Number	Shipping Weight	*List Price Each
9 <sup>3</sup> / <sub>4</sub> Inches	Headlight with Polished Aluminum Reflector	24803	30 lbs.	\$11.90
	Headlight with White Enameled Steel Reflector	24853	30 lbs.	11.90
	Headlight with Nickel-plated Copper Reflector	28647	30 lbs.	12.90

### With Clear Semaphore Lens in Regular Door

Cast-Iron Case

Diameter Lens	Style of Reflector	Catalog Number	Shipping Weight	*List Price Each
8 <sup>3</sup> / <sub>8</sub> Inches	Headlight with Polished Aluminum Reflector	24805	33 lbs.	\$14.70
	Headlight with White Enameled Steel Reflector	24855	33 lbs.	14.70
	Headlight with Nickel-plated Copper Reflector	28536	33 lbs.	15.70

### With Clear Semaphore Lens in Guard Door

Cast-Iron Case

Diameter Lens	Style of Reflector	Catalog Number	Shipping Weight	*List Price Each
8 <sup>3</sup> / <sub>8</sub> Inches	Headlight with Polished Aluminum Reflector	24813	33 lbs.	\$15.40
	Headlight with White Enameled Steel Reflector	24863	33 lbs.	15.40
	Headlight with Nickel-plated Copper Reflector	28648	33 lbs.	16.40

If socket extension HL1550 is desired, add \$0.60 to list price.

Net weight—With clear glass in door, 20 pounds; with semaphore lens in door, 23 pounds. Shipping dimensions: 16 x 14 x 11 inches.

If specified on the order, any of the following colored glasses or lenses will be furnished with above headlights at the quoted advances in list prices: "Noglare" semaphore lens or glass at an advance of \$4.50. Blue, green or ruby semaphore lens or glass, prices on application.

For information regarding alternative adjustment of headlights, see opposite page.



## IMPERIAL INCANDESCENT HEADLIGHTS

FOR CITY AND SUBURBAN SERVICE

9 3/8-Inch Diameter Reflector—Pressed Steel Case

Lamp Mounted Horizontally

Clear Glass in Plain Door

Takes 23 to 94-Watt Focus Type Mazda Lamp



Type WDS



Type WDF

### TYPE WDS HEADLIGHTS—Surface Mounting

Reflector Dimen.	Style of Reflector	Catalog Number	Shipping Weight	List Price Each
Dia. 9 3/8" Focus 1 3/8"	Headlight with Crystal Ray Reflector . . .	28515	26 lbs.	\$26.00
	Headlight with Gold Ray Reflector . . .	28516	26 lbs.	26.00
	Headlight with Sterling Ray Reflector . . .	28517	24 lbs.	22.00

### TYPE WDF HEADLIGHTS—Flush Mounting

Dia. 9 3/8" Focus 1 3/8"	Headlight with Crystal Ray Reflector . . .	28518	26 lbs.	\$26.00
	Headlight with Gold Ray Reflector . . .	28519	26 lbs.	26.00
	Headlight with Sterling Ray Reflector . . .	28520	24 lbs.	22.00



Type WDP



Type WDH

### \*TYPE WDP HEADLIGHTS—Portable—Metallic Circuit

Dia. 9 3/8" Focus 1 3/8"	Headlight with Crystal Ray Reflector . . .	29345	30 lbs.	\$35.00*
	Headlight with Gold Ray Reflector . . .	29346	30 lbs.	35.00*
	Headlight with Sterling Ray Reflector . . .	29347	28 lbs.	31.00*

### TYPE WDH HEADLIGHTS—Roof Mounting

Dia. 9 3/8" Focus 1 3/8"	Headlight with Crystal Ray Reflector . . .	29348	30 lbs.	\$30.00
	Headlight with Gold Ray Reflector . . .	29349	30 lbs.	30.00
	Headlight with Sterling Ray Reflector . . .	29350	28 lbs.	26.00

Above list prices do not include incandescent lamps.

\*For headlights arranged for grounded circuit, deduct \$2.50 from the list price.



# IMPERIAL INCANDESCENT HEADLIGHTS

## FOR INTERURBAN SERVICE

12-Inch Diameter Reflector—Sheet-Steel Case

Lamp Mounted Vertically

Clear Glass in Plain Door

Take 56 to 250-Watt Focus Type Mazda Lamp



Type SCP



Type SCS

### \*TYPE SCP HEADLIGHTS—Portable—Metallic Circuit

Reflector Dimen.	Style of Reflector	Catalog Number	Shipping Weight	List Price Each
Dia. 12" Focus 2 <sup>17</sup> / <sub>32</sub> "	Headlight with Crystal Ray Reflector . . .	28567	53 lbs.	\$56.00*
	Headlight with Gold Ray Reflector . . .	28568	53 lbs.	56.00*
	Headlight with Sterling Ray Reflector . . .	28569	50 lbs.	48.50*

### TYPE SCS HEADLIGHTS—Surface Mounting

Dia. 12" Focus 2 <sup>17</sup> / <sub>32</sub> "	Headlight with Crystal Ray Reflector . . .	28570	50 lbs.	\$47.00
	Headlight with Gold Ray Reflector . . .	28571	50 lbs.	47.00
	Headlight with Sterling Ray Reflector . . .	28572	47 lbs.	39.50



Type SCF



Type SCH

### TYPE SCF HEADLIGHTS—Flush Mounting

Dia. 12" Focus 2 <sup>17</sup> / <sub>32</sub> "	Headlight with Crystal Ray Reflector . . .	29381	50 lbs.	\$47.00
	Headlight with Gold Ray Reflector . . .	29382	50 lbs.	47.00
	Headlight with Sterling Ray Reflector . . .	29383	47 lbs.	39.50

### TYPE SCH HEADLIGHTS—Roof Mounting

Dia. 12" Focus 2 <sup>17</sup> / <sub>32</sub> "	Headlight with Crystal Ray Reflector . . .	29384	53 lbs.	\$51.00
	Headlight with Gold Ray Reflector . . .	29385	53 lbs.	51.00
	Headlight with Sterling Ray Reflector . . .	29386	50 lbs.	43.50

Above list prices do not include incandescent lamps.

\*For headlight arranged for grounded circuit, deduct \$2.50 from the list price.



## NORTHERN LIGHT MAZDA LAMPS

## EXTRA CHARGES FOR SPECIAL FEATURES

All extra percentage charges will be figured on the basic list price of the clear lamps.

## Tipless Lamps

The prices given in schedules cover lamps with a tip, unless otherwise indicated; for tipless Mazda lamps the additional charge is 20 per cent.

## Frosted Lamps

The following list additional charges shall be added to the list prices of clear lamps for either bowl-frosting or all-frosting such clear lamps.

Price Clear Lamps Each	List Additional Charge for Bowl or All Frosting	Price Clear Lamps Each	List Additional Charge for Bowl or All Frosting
Less than \$1.00	\$0.05	\$6.00 to \$6.99	\$0.35
1.00 to 1.99	.10	7.00 to 7.99	.40
2.00 to 2.99	.15	8.00 to 8.99	.45
3.00 to 3.99	.20	9.00 to 9.99	.50
4.00 to 4.99	.25	10.00 to 10.99	.55
5.00 to 5.99	.30	11.00 to 11.99	.60

The prices of any lamps with special frosting may be obtained on application.

## Colored Lamps

For superficial coloring, excepting opal, add 15 per cent to list price of clear lamps. For superficial opal coloring (opal dipping) a lamp, the list additional charge to the price of the lamp is the same as the list additional charge for frosting the lamp. When 10000 or more of any one color of superficially colored lamps, or 10000 or more of bowl or all frosted lamps (not including any combination of the three) are ordered at one time, the additional charge shall be two-thirds the regular charge, provided such orders cover lamps which are all of the same type, class and size of lamp and bulb. Superficially colored MAZDA C lamps are not recommended.

For natural colored lamps in S-17, S-19, S-21, S-30, PS-16, PS-20, PS-22, PS-25, G-18½, G-25, G-30, P-19 and T-10 bulbs, add the following percentages to the price of clear lamps: Green or blue, 50 per cent; purple, 75 per cent; ruby or opal, 100 per cent; amber or canary, 150 per cent. MAZDA lamps in S-14 bulbs, take the following percentages additional: Green or blue, 40 per cent; purple, 60 per cent; ruby or opal, 75 per cent; amber or canary, 100 per cent. The extra charges given above cover only bulbs of the manufacturer's standard colored glass. Specially colored glass bulbs will take a higher price, which will be furnished on application.

## Bases

The prices in each schedule cover only the base or bases stated therein. For lamps fitted with other bases the prices may be obtained on application.

Lamps regularly fitted with medium screw unskirted base, if fitted with medium screw skirted base, will take an additional charge of 10 cents to list prices.

There will be no reduction in the price of lamps which are regularly based when furnished unbased.

## Etching Letters

Extra charges for etching letters or designs on Mazda lamps may be obtained upon application.

## Special Lamps

Any lamp requiring a change in construction from the standard, such as shape or color of bulb, number of loops in filament, number of anchors, wattage, voltage, etc., will take a special price, which may be obtained upon application.

As it is impossible always to produce an exact quantity of any special lamps ordered, or of any lamps to be made tipless (when listed tipped) or of any lamps to be furnished in natural colored bulbs, all such orders may be filled either short or in excess, within the limits of 10 per cent, and not more than two lamps short or excess on orders for twenty lamps or less.



## NORTHERN LIGHT MAZDA C LAMPS

### GENERAL FEATURES OF MAZDA LAMPS

Convenience, reliability, high efficiency and adaptability are some of the features of Mazda lamps which are responsible for their rapid adoption in store, office, factory and public building lighting; in city and suburban homes; in flashlight, hand lantern and automobile service; in street and sign lighting; train and ship lighting; in mines and many other classes of service. The schedules which follow present the wide variety of sizes in which Mazda lamps are regularly manufactured to meet this widely diversified demand.

Mazda lamps are divided into two general classes—large style and miniature style.

### LARGE STYLES

Large styles include lamps ranging from 10 to 1000 watts for standard lighting service on 110, 115 and 120-volt circuits and sizes from 25 to 1000 watts for 220, 230, 240 and 250-volt service. Among these lamps will be found two, designated as Mill Type lamps in the 110, 115 and 120 and one in the 220, 230, 240, and 250-volt classes which are of especially rugged construction which adapts them to severe service conditions. There will also be found a diffused bulb lamp schedule in the 110, 115 and 120-volt range. These lamps are designed to give a particularly soft and pleasing light. It will be noted that the larger lamps in both voltage classes may be obtained either clear or bowl-enameled. The bowl enameling serves to diffuse the light from the filament and is a most desirable feature for reducing both direct and reflected glare from lamps used in open reflectors.

Tubular bulb lamps are supplied in various sizes for show case and special lighting. Among the sign lamps will be found two in blue glass bulbs and of special filament construction which particularly adapts them to this service. Lamps for electric street railway service are standard in four sizes, ranging from 23 to 94 watts. Lamps for use in series in street lighting circuits are available in sizes ranging from 600 to 15000 lumens. Lamps for train lighting service run from 10 to 50 watts and certain sizes are available in either straight side or round bulbs. Locomotive headlight lamps are made in two sizes.

The Mazda Daylight lamps deserve particular mention. These lamps are supplied in a special blue glass bulb which filters the light from the filament and produces a light approximating that of average daylight. Many applications of these lamps have been made where more accurate color discrimination is required than is possible under other artificial lighting sources. They are not recommended for accurate color matching, however, special units being available for this purpose.

Country home lighting lamps are available in sizes ranging from 10 to 100 watts; a 50-watt white Mazda lamp is included. Two lamps for motion picture projection are included in the standard schedules, as are also five lamps for use in small portable projection or stereopticon machines and two lamps for flood-lighting service.

### MINIATURE STYLES

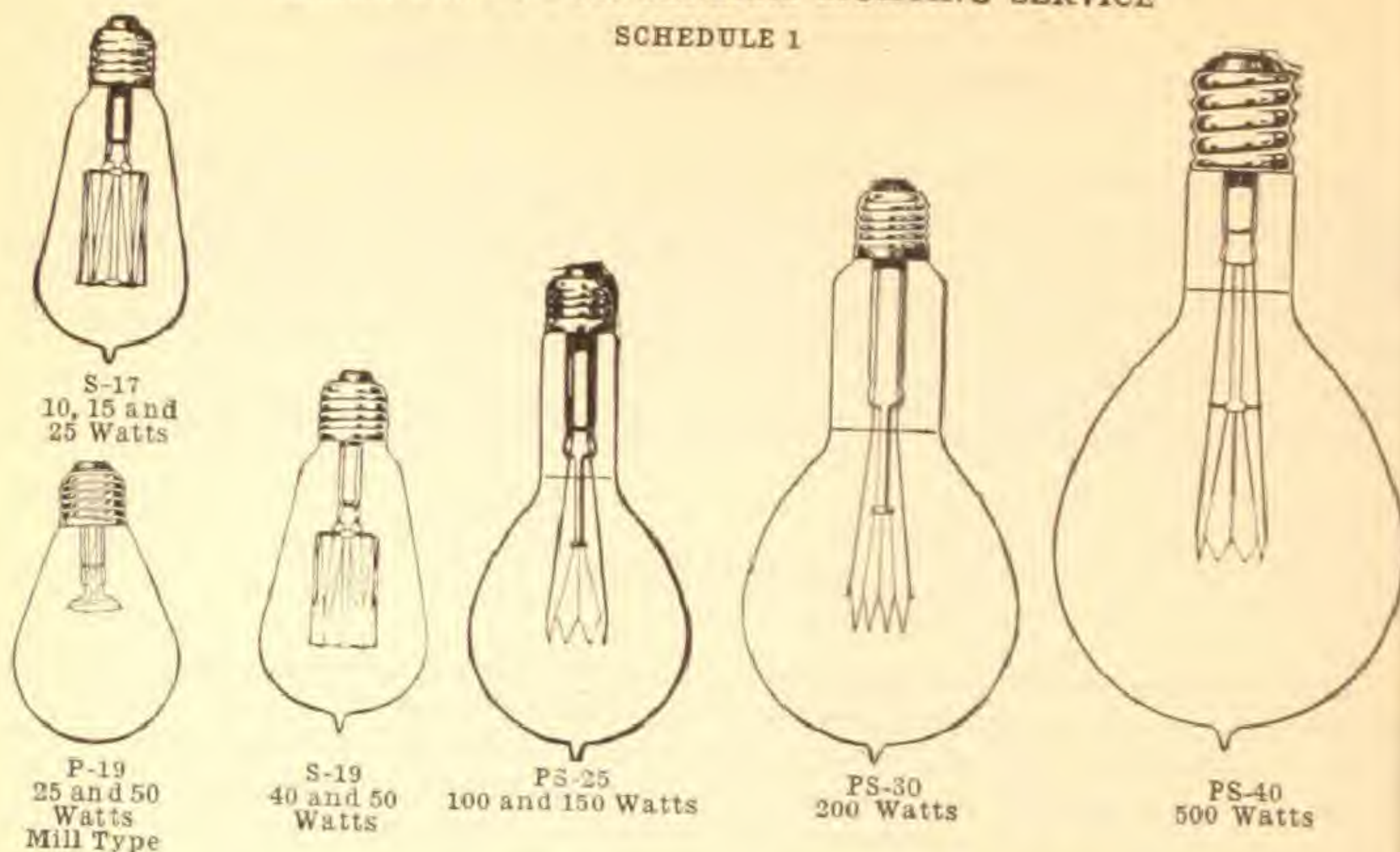
Flashlight lamps, of which a number are listed, are designed for use with flashlight batteries, 2-cell, 3-cell and 5-cell type. The particular cells to which each lamp is best adapted are listed opposite the lamp. Two lamps are available for standard dry battery service. The variety of automobile lamps listed is sufficient to meet the demands of practically all models of automobiles. Lamps adapted to Ford lighting systems and two lamps for motorcycle service are listed.



# NORTHERN LIGHT MAZDA LAMPS

## MAZDA LAMPS FOR GENERAL LIGHTING SERVICE

### SCHEDULE 1



These lamps constitute more than 75 per cent of the ordinary lamp demand for such service as residence, store and office lighting. The higher wattage sizes are used for various industrial and store lighting purposes. These lamps are for use on ordinary 110, 115 and 120-volt lighting circuits. Whenever lamps are not placed in enclosing or suitable diffusing glassware, the lamps in diffusing bulbs are preferable to the clear lamps listed below. Proper reflector equipment should be provided to protect the eyes from the extremely bright filaments of Mazda C lamps, especially whenever the lamps are hung low in the usual line of vision. Mazda Mill type are of special construction to give the ruggedness that will insure satisfactory service under unusual conditions of vibration or repeated mechanical shocks.

### STRAIGHT SIDE BULB—MAZDA B LAMPS—110, 115 AND 120 VOLTS

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Base Regularly Furnished	Std. Pkg.	Price, Ea. Clear
27165	10	78	S-17	2 $\frac{1}{8}$	4 $\frac{7}{8}$	Med. screw	120	\$0.50
27146	15	130	S-17	2 $\frac{1}{8}$	4 $\frac{7}{8}$	Med. screw	120	.50
27148	25	240	S-17	2 $\frac{3}{8}$	4 $\frac{7}{8}$	Med. screw	120	.50
27166	40	400	S-19	2 $\frac{3}{8}$	5 $\frac{1}{4}$	Med. screw	120	.50
81236	50	500	S-19	2 $\frac{3}{8}$	5 $\frac{1}{4}$	Med. screw	120	.50
27167	60	620	S-21	2 $\frac{5}{8}$	5 $\frac{1}{2}$	Med. screw	120	.55

### STRAIGHT SIDE BULB—MAZDA MILL TYPE LAMPS—110, 115 AND 120 VOLTS

27648	25	200	P-19	2 $\frac{3}{8}$	5 $\frac{1}{4}$	Med. screw	120	.60
27649	50	420	P-19	2 $\frac{3}{8}$	5 $\frac{1}{4}$	Med. screw	120	.60

### PEAR SHAPED BULB—MAZDA C LAMPS—110, 115 AND 120 VOLTS

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Light Center Length, In.	Base Regularly Furnished	Std. Pkg.	Price, Each Clear Bowl	Each Enameled
81237	75	880	PS-22	2 $\frac{3}{4}$	6 $\frac{1}{8}$	4 $\frac{5}{16}$	Med. screw	60	\$0.95	\$1.00
27174	100	1300	PS-25	3 $\frac{1}{8}$	7 $\frac{1}{8}$	5 $\frac{3}{16}$	Med. screw	24	1.35	1.45
81238	150	2100	PS-25	3 $\frac{1}{8}$	7 $\frac{1}{8}$	5 $\frac{3}{16}$	Med. screw	24	2.10	2.15
27172	200	3100	PS-30	3 $\frac{3}{4}$	8 $\frac{3}{8}$	6	Med. screw	24	2.85	2.95
27173	300	4900	PS-35	4 $\frac{3}{8}$	9 $\frac{3}{4}$	7	Mog. screw	24	4.20	4.30
27169	500	8800	PS-40	5	10	7	Mog. screw	12	6.00	6.15
27170	750	14000	PS-52	6 $\frac{1}{2}$	13 $\frac{3}{8}$	9 $\frac{1}{2}$	Mog. screw	8	8.30	8.50
27171	1000	20000	PS-52	6 $\frac{1}{2}$	13 $\frac{3}{8}$	9 $\frac{1}{2}$	Mog. screw	8	9.75	10.00

†Orders for lamps of 150 watts and greater should specifically so state, if lamps are to be burned in other than tip down position.

As lamps for 110, 115 and 120 volts cover approximately 90 per cent of the demand, lamps for other voltages between 100 and 130 are not regularly carried in stock in all places but may be obtained at the same prices.

For prices of frosted lamps, see Schedule of Extra Charges on a previous page.

Illustrations are one-fourth actual size.



# NORTHERN LIGHT MAZDA LAMPS

## MAZDA LAMPS IN DIFFUSING BULBS FOR GENERAL LIGHTING SERVICE

### SCHEDULE 1



S-19  
40 Watts



PS-20  
50 Watts



G-25  
25 and 40 Watts



B-9 1/2  
15 Watts



G-16 1/2  
15 Watts

Wherever lamps are exposed to view in homes, hotels, churches, offices, etc., diffusing bulb lamps are preferable to clear or bowl frosted lamps, as they give improved appearance and better diffusion of light. The following lamps meet this demand

### STRAIGHT SIDE BULB—MAZDA B LAMPS

110, 115 and 120 Volts

Trade No.	Watts	Bulb	Maximum Over All Length Inches	Std. Pkg.	Base Regularly Supplied	Price, Each All Frosted
200098	15	S-17	4 3/8	120	Medium	\$0.55
200099	25	S-17	4 3/8	120	Medium	.55
200100	40	S-19	5 1/4	120	Medium	.55

### PEAR-SHAPE BULB—WHITE MAZDA C LAMPS

110, 115 and 120 Volts

Trade No.	Watts	Bulb	Maximum Over All Length Inches	Std. Pkg.	Base Regularly Supplied	Price, Each All Frosted
200101	50	*PS-20	5 1/8	60	Medium	\$0.85

\*The bulb of this lamp is tipless.

### MAZDA B DECORATIVE LAMPS

110, 115 and 120 Volts

Medium Screw Base

Trade No.	Watts	Bulb	Maximum Over All Length Inches	Std. Pkg.	Base Regularly supplied	Price, Each All Frosted
200102	15	G-18 1/2	3 3/4	60	Medium	\$0.80
200103	25	G-18 1/2	3 3/4	60	Medium	.80
200104	25	G-25	4 3/4	60	Medium	.80
200105	40	G-25	4 3/4	60	Medium	.80
Candelabra Screw Base						
200106	15	B-9 1/2	3 3/4	100	Candelabra	1.00
200107	15	G-16 1/2	3 1/8	100	Candelabra	1.00

As lamps for 110, 115 and 120 volts cover approximately 90 per cent of the demand, lamps for other voltages between 100 and 130 are not regularly carried in stock in all places but may be obtained at the same prices.

Illustrations are one-fourth actual size.



# NORTHERN LIGHT MAZDA LAMPS

## MAZDA LAMPS FOR GENERAL LIGHTING SERVICE

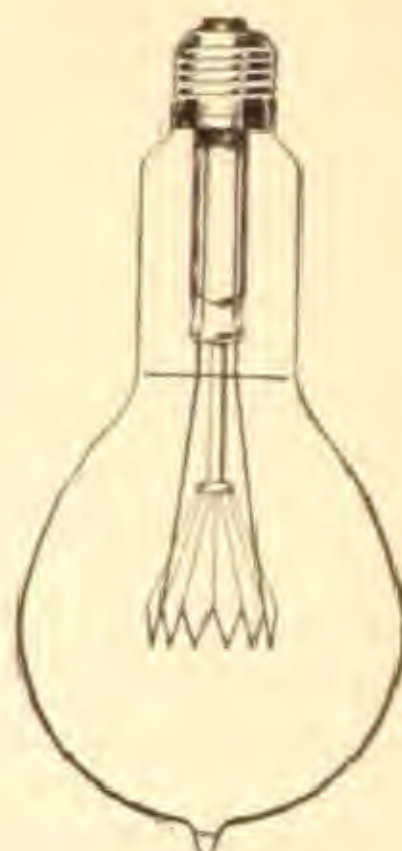
### SCHEDULE 2



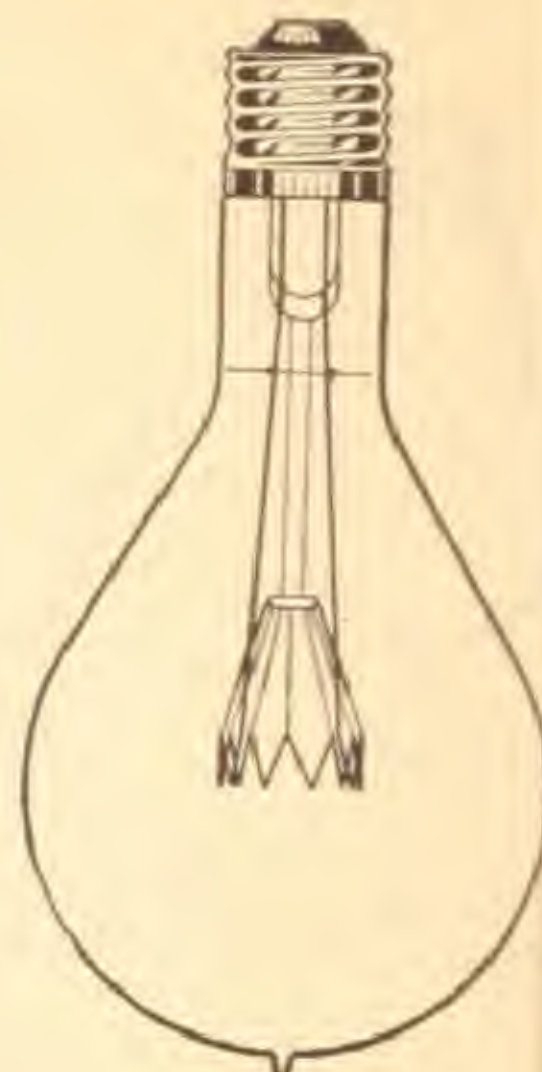
S-19  
25 and 50  
Watts



P-19  
50 Watts  
Mill Type



PS-30  
200 Watts



PS-40  
500 Watts

These lamps are higher in price and less efficient than 110, 115 and 120-volt lamps of same wattage and should not be used where it is possible to change the service from 220, 230, 240 and 250 volts to 110, 115 and 120 volts.

Mazda Mill Type lamps are of special construction to give the ruggedness that will insure satisfactory service under unusual conditions of vibration or repeated mechanical shocks.

#### STRAIGHT SIDE BULB—MAZDA B LAMPS—220, 230, 240 AND 250 VOLTS

Trade No.	Watts	Approx. Lumens	Type Bulbs	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price Each Clear
27154	25	190	S-19	$2\frac{3}{8}$	$5\frac{3}{8}$	Med. screw	120	\$0.55
27155	50	450	S-19	$2\frac{3}{8}$	$5\frac{3}{8}$	Med. screw	120	.55
27157	100	1050	S-30	$3\frac{3}{4}$	$7\frac{7}{8}$	†Med. screw	24	1.50

#### STRAIGHT SIDE BULB—MAZDA MILL TYPE LAMPS—220, 230, 240 AND 250 VOLTS

Trade No.	Watts	Approx. Lumens	Type Bulbs	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price Each Clear
69404	50	370	P-19	$2\frac{3}{8}$	4	Med. screw	120	\$0.65

#### \*PEAR-SHAPE BULB—MAZDA C LAMPS—220, 230, 240 AND 250 VOLTS

Trade No.	Watts	Approx. Lumens	Type Bulbs	Diam. Inches	Length Inches	Light Center Length, In.	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Price, Each Enamelled
69405	100	1000	PS-25	$3\frac{1}{8}$	$7\frac{1}{8}$	$5\frac{3}{16}$	Med. screw	24	\$1.95	\$2.05
109694	200	2600	PS-30	$3\frac{3}{4}$	$8\frac{3}{8}$	6	Med. screw	24	3.60	3.70
109695	300	4300	PS-35	$4\frac{3}{8}$	$9\frac{3}{4}$	7	Mog. screw	24	5.85	6.00
109697	500	8000	PS-40	5	10	7	Mog. screw	12	8.40	8.65
109699	1000	17500	PS-52	$6\frac{1}{2}$	$13\frac{3}{8}$	$9\frac{1}{2}$	Mog. screw	8	13.50	13.90

\*Orders for lamps of 200 watts and greater should specifically so state, if lamps are to be burned in other than tip down position.

†This lamp will be supplied with old style skirted base until the supply is exhausted.

As lamps for 220, 230, 240 and 250 volts cover approximately 90 per cent of the demand, lamps for other voltages between 200 and 260 are not regularly carried in stock in all places but may be obtained at the same prices.

For prices of frosted lamps, see Schedule of Extra Charges for Frosting on a previous page.

Illustrations are one-fourth actual size.

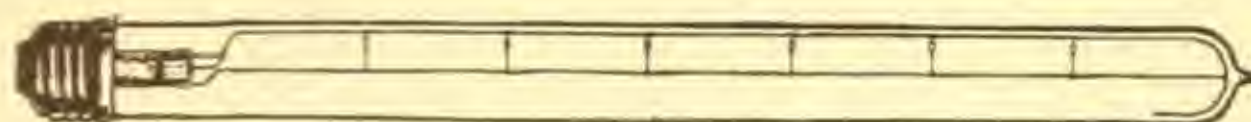


## NORTHERN LIGHT MAZDA LAMPS

### MAZDA LAMPS FOR SPECIAL LIGHTING SERVICE



T-10  
25 Watts



T-8  
40 Watts



P-19  
25 and 50 Watts

Tubular lamps are especially designed for show case, special display sign and cornice lighting or for other services where a line source is necessary to light confined spaces or to define outlines.

### TUBULAR BULB—MAZDA B LAMPS

#### SCHEDULE 3

110, 115 and 120 Volts

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price Each Clear	Price, Each Frosted or Bowl Enam.
27188	25	240	T-10	1 1/4	5 7/8	Med. screw	100	\$0.80	\$0.85
27191	40	350	T-8	1	12	Med. screw	100	1.80	1.95

### BLUE MAZDA B SIGN LAMPS

#### SCHEDULE 4

110, 115 and 120 Volts

The bulb is of special light blue glass to give a whiter light than the ordinary clear bulb sign lamp. These lamps should not be confused with Mazda C Daylight lamps.

75 and 100-watt clear and Mazda C Daylight lamps are used in signs to give brilliant and attractive effects. However they are not recommended unless they are adequately protected from the weather.

These lamps are fitted with medium screw base.

Trade No.	Watts	Bulb	Diam. Inches	Max. Length Over All Inches	Std. Pkg.	Price Each Clear
200132	25	P-19	2 3/8	4	120	\$0.70
200133	50	P-19	2 3/8	4	120	.70

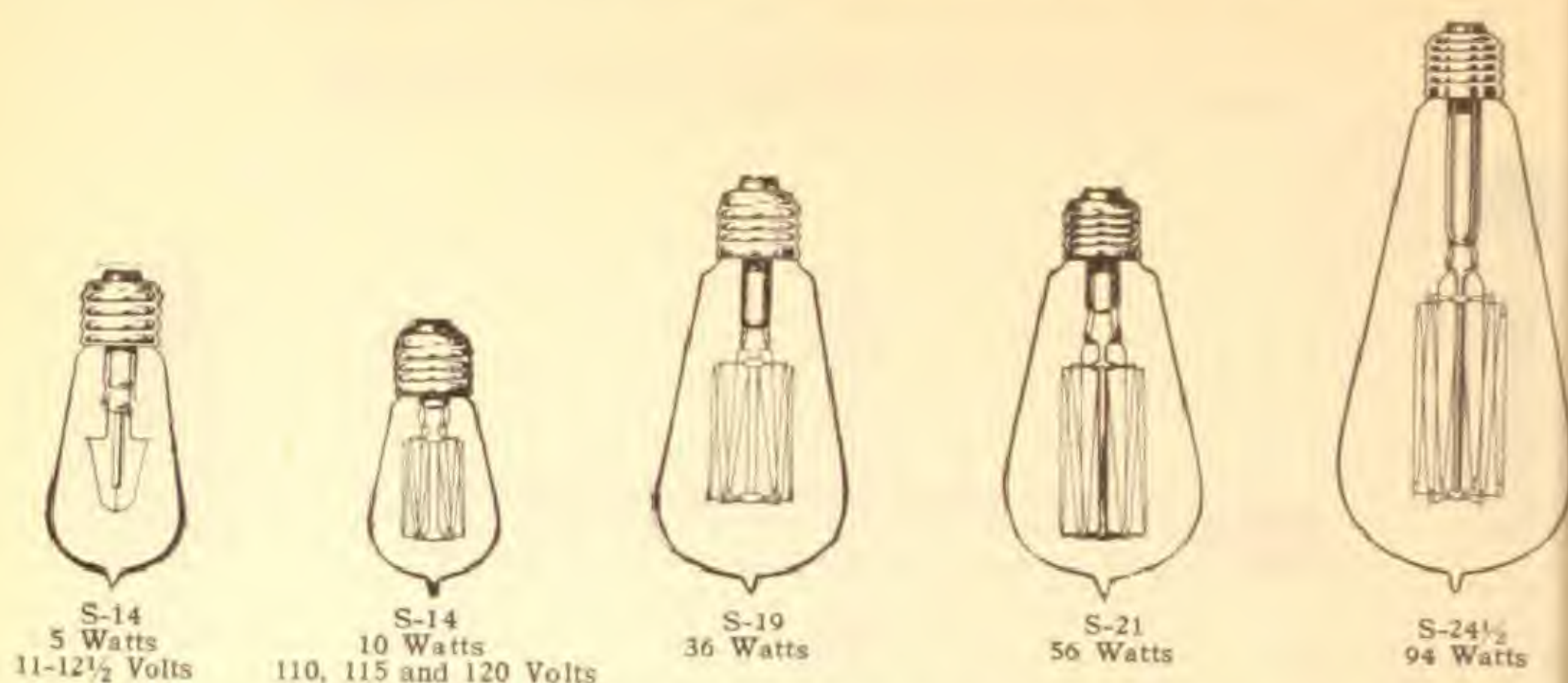
As lamps for 110, 115 and 120 volts cover approximately 90 per cent of the demand, lamps for other voltages between 110 and 130 are not regularly carried in stock in all places but may be obtained at the same prices.

For prices of frosted lamps, see Schedule of Extra Charges for Frosting on a previous page.

Illustrations are one-fourth actual size.



## NORTHERN LIGHT MAZDA LAMPS



## MAZDA LAMPS FOR SIGN LIGHTING SERVICE—SCHEDULE 4

## STRAIGHT SIDE BULB—MAZDA B

## 11 TO 12½, 55 TO 65 AND 110, 115 AND 120 VOLTS

These MAZDA B lamps are used for ordinary sign lighting purposes. The lamps are divided into three groups as follows:

11 to 12½ volts. On alternating current circuits these lamps are generally operated on a transformer circuit where the voltage is reduced from 110-125 to 11-12½ volts. These lamps are available in ½-volt steps from 11 to 12½ volts, inclusive. If direct current only is available these lamps may be burned, if so desired, ten in series on a standard 110 to 125-volt circuit.

55 to 65 volts. These lamps are generally burned two in series or grouped in series multiple on standard 110, 115 and 120-volt circuits.

Lamps of 110, 115 and 120 volts are for use on regular multiple or ordinary lighting circuits.

## 11 to 12½ Volts\*

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price Each Clear
27161	5	42	S-14	1¾	4¼	Med. screw	100	\$0.50
27163	5	38	S-14	1¾	4¼	Med. screw	100	.50
27164	10	74	S-14	1¾	4¼	Med. screw	100	.50

\*Lamps of voltages of 10, 10½ and 13 are not regularly carried in stock, but may be obtained at the same prices.

†Lamps of voltages of 50 to 54, inclusive, are not regularly carried in stock but may be obtained at the same prices.

‡As lamps for 110, 115 and 120 volts cover approximately 90 per cent of the demand, lamps for other voltages between 100 and 130 are not regularly carried in stock in all places but may be obtained at the same prices.

## MAZDA LAMPS FOR ELECTRIC STREET RAILWAY SERVICE—SCHEDULE 5

## STRAIGHT SIDE BULB—MAZDA B

## FIVE IN SERIES—525, 550, 575, 600, 625, AND 650 VOLTS

These MAZDA lamps are selected for amperes and labeled for use five in series on the 525, 550, 600, 625 and 650-volt circuits ordinarily used by electric street railway companies.

As considerable voltage fluctuation is sometimes found in this class of circuits, these lamps are only manufactured for 6-voltage groups and care should be taken to see that the voltage group of lamps supplied corresponds closely to the average voltage found on the circuit.

Trade No.	Nominal Watts	Amp.	Approx. Lumens	Type Bulb	Diam. In.	Length In.	Base Regularly Supplied	Std. Pkg.	Price Each Clear
29779	23	214	220	S-19	2⅜	5¼	Med. screw	120	\$0.50
29789	36	342	380	S-19	2⅜	5¼	Med. screw	120	.50
29793	56	519	600	S-21	2⅝	5½	Med. screw	120	.55
29794	94	863	1050	S-24½	3⅞	7⅜	Med. screw	50	1.25

Only the above lamps which are selected for amperes and for one-fifth the voltage on which they are labeled for use in series will be supplied at these prices.

For prices of frosted lamps, see Schedule of Extra Charges for Frosting on a previous page.

Illustrations are one-fourth actual size.



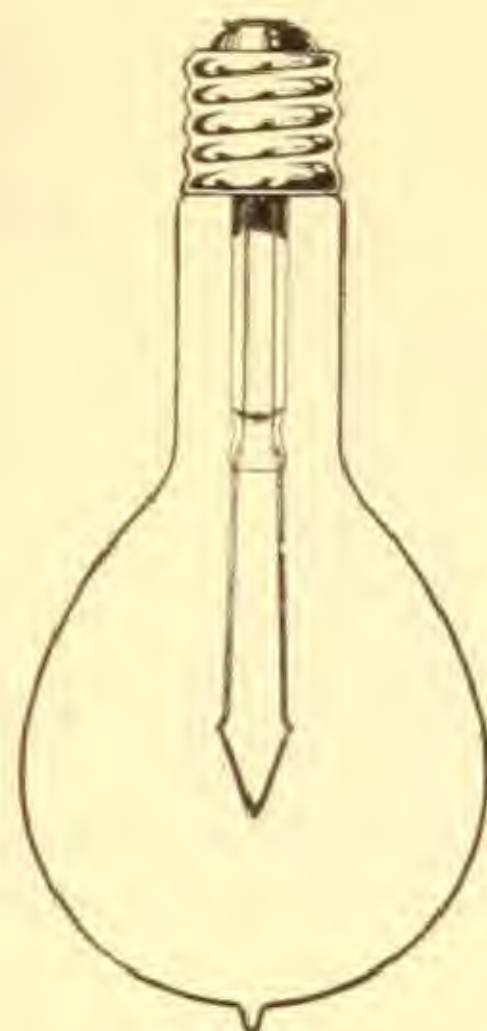
# NORTHERN LIGHT MAZDA LAMPS

## MAZDA LAMPS FOR USE IN SERIES ON STREET LIGHTING CIRCUITS

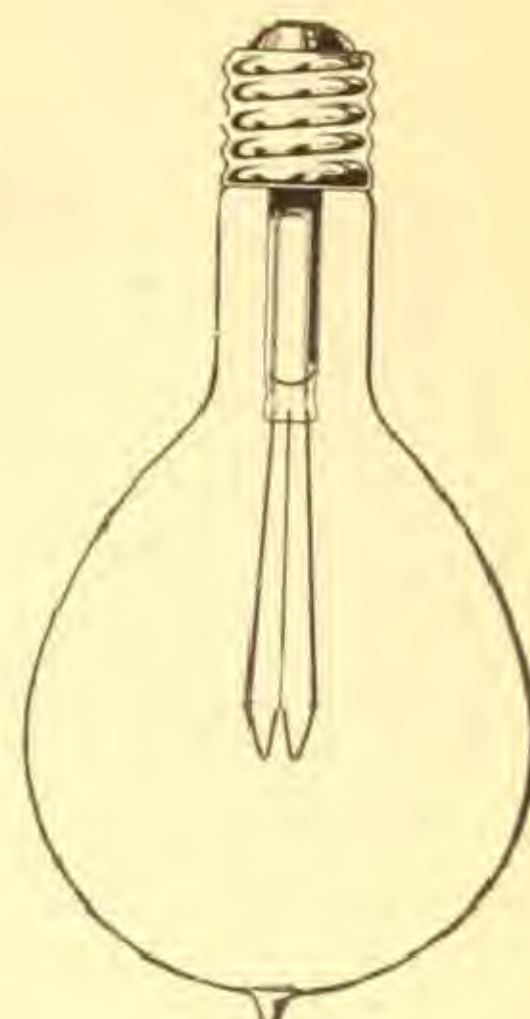
### SCHEDULE 6



S-24 1/2  
60 and 100 C.P.  
6.6 Amperes



PS-35  
250 C.P.  
6.6 Amperes



PS-40  
600 C.P.  
6.6 Amperes

These lamps are for use on constant current circuits only. The 15 and 20-ampere lamps are ordinarily supplied from 6.6-ampere circuits with the use of a two-coil or auto-transformer for stepping up the current.

The price of lamps for rectifier service which are not included in the following may be obtained upon application.

### STRAIGHT SIDE BULB—MAZDA C LAMPS

Trade No.	Amps.	Total Lumens	Average Volts	Type Bulb	Diam. Inches	Max. Length Inches	Light Center Lgth., In.	Base Regularly Supplied	Std. Pkg.	Price Each Clear
81151	6.6	600	7.1	S-24 1/2	3 1/8	7 1/4	5 3/8	Mog. screw	50	\$1.30
81139	6.6	800	9.1	S-24 1/2	3 1/8	7 1/4	5 3/8	Mog. screw	50	1.50
81140	6.6	1000	10.9	S-24 1/2	3 1/8	7 1/4	5 3/8	Mog. screw	50	1.50

### PEAR-SHAPE BULB—MAZDA C LAMPS

81141	6.6	2500	23.5	PS-35	4 3/8	9 3/4	7	Mog. screw	24	3.00
81142	6.6	4000	37.1	PS-35	4 3/8	9 3/4	7	Mog. screw	24	6.00
81143	6.6	6000	55.7	PS-40	5	10	7	Mog. screw	12	7.50
81156	15	4000	15.3	PS-40	5	12 1/2	9 1/2	Mog. screw	12	6.00
29171	20	6000	15.5	PS-40	5	12 1/2	9 1/2	Mog. screw	12	7.50
29172	20	10000	25.9	PS-40	5	12 1/2	9 1/2	Mog. screw	12	9.00
81157	20	15000	37.6	PS-40	5	12 1/2	9 1/2	Mog. screw	12	10.50

Orders for lamps of 250 C.P. and greater should specifically so state, if they are to be turned in other than tip down position.

The nominal candle-power of these lamps is one-tenth of their lumen rating.

For prices of frosted lamps, see Schedule of Extra Charges for Frosting on a previous page.

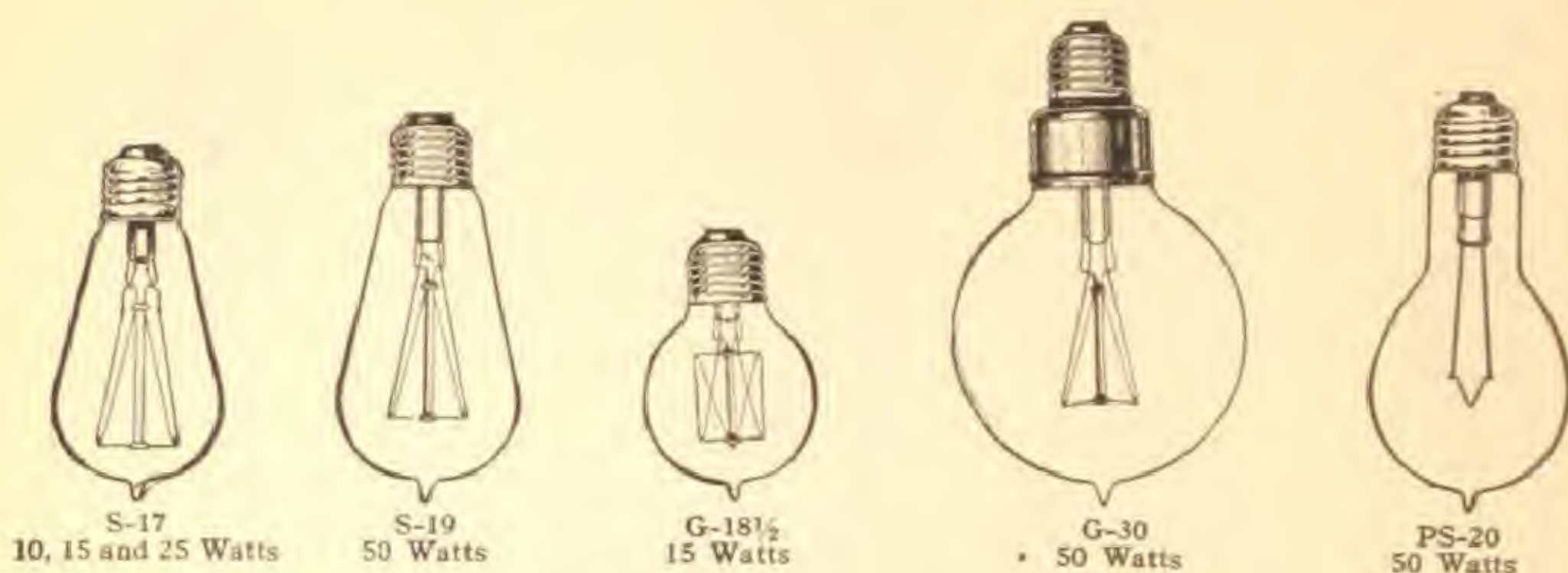
Illustrations are one-fourth actual size.



## NORTHERN LIGHT MAZDA LAMPS

## MAZDA LAMPS FOR TRAIN LIGHTING SERVICE

## SCHEDULE 7



The 30-34-volt lamps are generally operated from locomotive headlight outfits or 16-cell storage battery lighting systems. These lamps are used for ordinary train lighting service.

## STRAIGHT SIDE BULB—MAZDA B LAMPS

## 30 to 34 Volts

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price Each Clear
144094	10	85	S-17	2 1/8	4 3/8	Med. screw	120	\$0.50
144095	15	125	S-17	2 1/8	4 7/8	Med. screw	120	.50
144114	*15	125	S-17	2 1/8	4 7/8	Med. screw	120	.50
144097	25	250	S-17	2 1/8	4 7/8	Med. screw	120	.50
144098	50	500	S-19	2 3/8	5 1/4	Med. screw	120	.50

## ROUND BULB—MAZDA B LAMPS

## 30 to 34 Volts

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price Each Clear
144105	15	125	G-18½	2 5/8	3 3/4	Med. screw	60	\$0.75
144107	25	250	G-18½	2 5/8	3 3/4	Med. screw	60	.75
144108	50	500	G-30	3 3/4	6 1/4	Med. se. sk.	24	1.05

## PEAR-SHAPE BULB—MAZDA C LAMPS

## 30 to 34 Volts

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Light Center Length, In	Base Regularly Supplied	Std. Pkg.	Price Each Clear
200155	50	740	PS-20	2 1/2	5 1/2	3 3/4	Med. screw	60	\$0.90
200156	75	1200	PS-22	2 3/4	6 1/8	4 5/8	Med. screw	60	1.05

\*33 volts only. For locomotive cab lighting service.

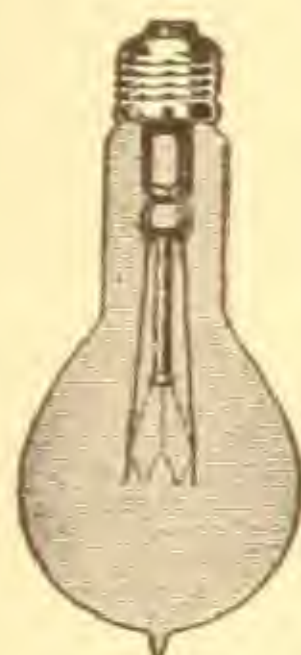
For prices of frosted lamps, see Schedule of Extra Charges for Frosting on a previous page. Illustrations are one-fourth actual size.



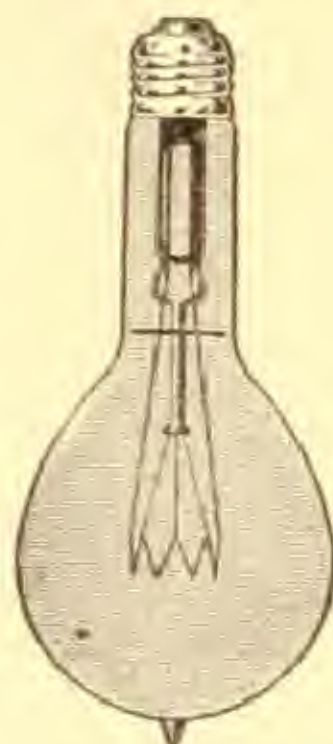
## NORTHERN LIGHT MAZDA LAMPS

### MAZDA DAYLIGHT LAMPS FOR GENERAL LIGHTING SERVICE

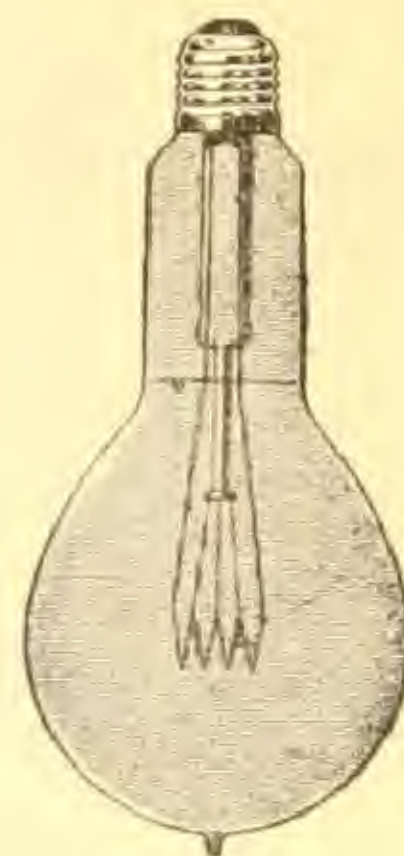
#### SCHEDULE 8



PS-22  
75 Watts



PS-25  
100 and 150 Watts



PS-30  
200 Watts

MAZDA Daylight lamps have bulbs made of special blue glass, to produce light approximating average daylight quality.

MAZDA Daylight lamps are recommended for stores, offices, display windows and factories whenever it is desired to show colors more nearly in their true daylight appearance than is possible by means of customary artificial light. To get this effect no other illuminants should be burned in the same room or enclosure.

MAZDA Daylight lamps are not recommended for accurate color matching. Special color matching units are available for this purpose.

### PEAR-SHAPE BULB—DAYLIGHT MAZDA LAMPS

#### 110, 115 and 120 Volts

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Light Center Length, In.	Base Regularly Supplied	Std. Pkg.	Price Each Clear
1239	75	600	PS-22	2 $\frac{3}{4}$	6 $\frac{1}{8}$	4 $\frac{5}{16}$	Med. screw	60	\$1.05
1240	100	900	PS-25	3 $\frac{1}{8}$	7 $\frac{1}{8}$	5 $\frac{3}{16}$	Med. screw	24	1.60
1241	150	1400	PS-25	3 $\frac{1}{8}$	7 $\frac{1}{8}$	5 $\frac{3}{16}$	Med. screw	24	2.45
1242	200	2100	PS-30	3 $\frac{3}{4}$	8 $\frac{3}{8}$	6	Med. screw	24	3.20
1243	300	3400	PS-35	4 $\frac{3}{8}$	9 $\frac{3}{4}$	7	Mog. screw	24	4.80
1402	500	5800	PS-40	5	10	7	Mog. screw	12	7.00

As lamps for 110, 115 and 120 volts cover approximately 90 per cent of the demand, lamps of other voltages between 100 and 130 are not regularly carried in stock but may be obtained at the same prices.

For prices of frosted lamps, see Schedule of Extra Charges for Frosting on a previous page.

If lamps of 150 watts and greater are for use in other than tip down position orders should so state.

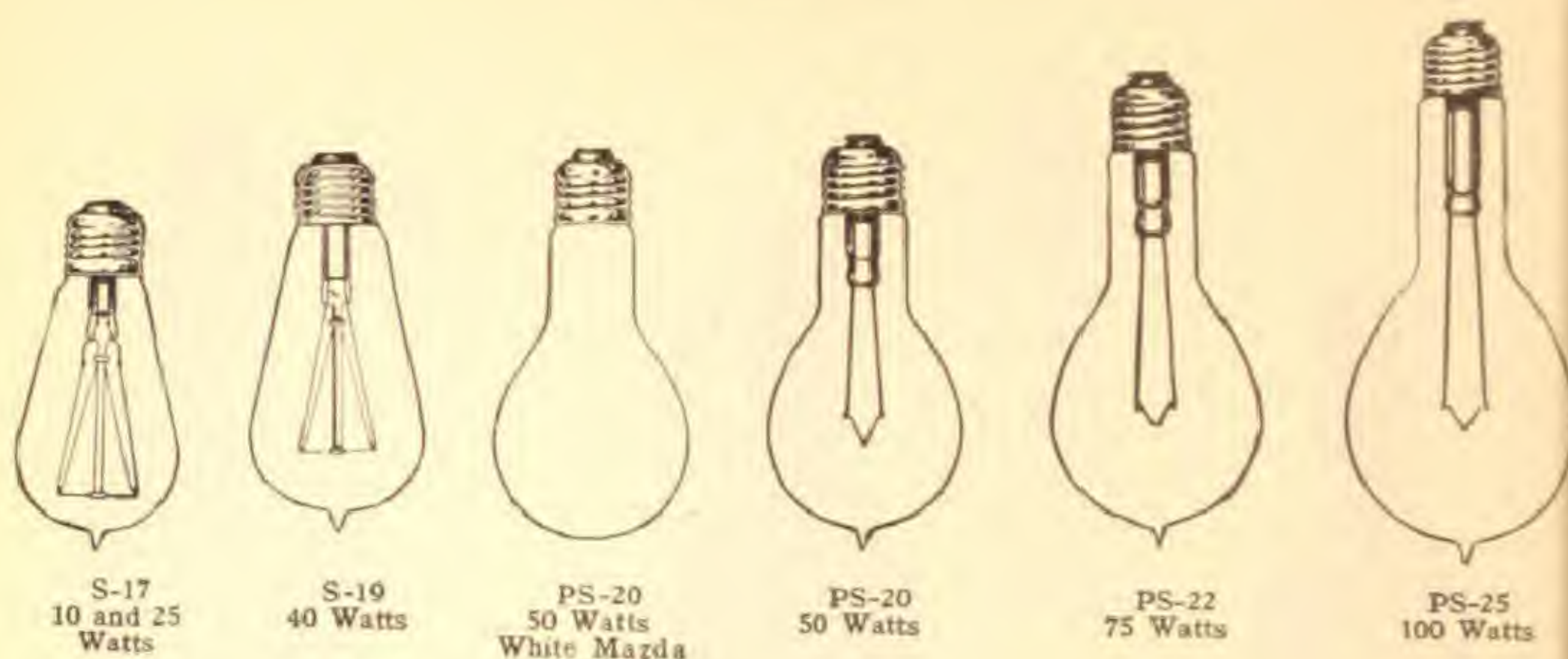
Illustrations are one-fourth actual size.



## NORTHERN LIGHT MAZDA LAMPS

MAZDA LAMPS FOR USE WITH COUNTRY HOME LIGHTING OUTFITS

## SCHEDULE 9



These lamps are generally used on circuits of country home lighting outfits having 16 cells of acid (lead storage) battery or 24 cells of alkaline battery in connection with a generator. The capacity of home lighting outfits is usually expressed in number of 20-watt lamps which it will light without overloading batteries and generator. Thus a 50-lamp home lighting outfit will light fifty 20-watt lamps or twenty-five 40-watt lamps, etc.

The Mazda C lamps should be used with proper reflectors to protect the eyes from the extremely bright filament.

These lamps are supplied for only one voltage and are adapted for use on circuits the voltage of which varies between 28 and 32 volts.

Orders should specify "28-32 volt lamps for country home lighting service."

STRAIGHT SIDE AND ROUND BULBS—MAZDA B LAMPS  
28—32 Volts

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price Each Clear
27196	10	94	S-17	2 $\frac{1}{8}$	4 $\frac{7}{8}$	Med. screw	120	\$0.50
27198	40	420	S-19	2 $\frac{3}{8}$	5 $\frac{1}{4}$	Med. screw	120	.50

PEAR-SHAPED BULB—MAZDA C LAMPS  
28—32 Volts

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Light Center Length In.	Base Regularly Supplied	Std. Pkg.	Price Each Clear
200118	*50	640	PS-20	2 $\frac{1}{2}$	5 $\frac{1}{8}$	-	Med. screw	60	\$0.90
200119	50	740	PS-20	2 $\frac{1}{2}$	5 $\frac{1}{2}$	3 $\frac{3}{4}$	Med. screw	60	.90
200120	75	1200	PS-22	2 $\frac{3}{4}$	6 $\frac{1}{8}$	4 $\frac{5}{8}$	Med. screw	60	1.05
200121	100	1700	PS-25	3 $\frac{1}{8}$	7 $\frac{1}{8}$	5 $\frac{3}{8}$	Med. screw	24	1.55

\*White Mazda lamp. The bulb of this lamp is tipless.

For prices of frosted lamps, see Schedule of Extra Charges for Frosting on a previous page.

Illustrations are one-fourth actual size.

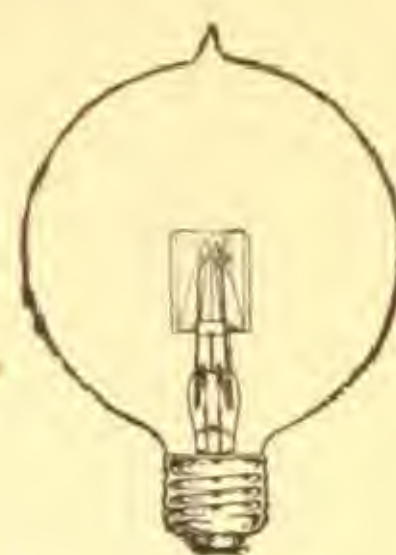


# NORTHERN LIGHT MAZDA LAMPS

MAZDA LAMPS WITH CONCENTRATED FILAMENTS FOR FOCUSING PURPOSES  
SCHEDULE 10



G-25  
100 Watts  
110, 115 and 120 Volts



G-30  
250 Watts  
110, 115 and 120 Volts

## MAZDA C LAMPS FOR STEREOPTICON SERVICE

Round Bulb—110, 115 and 120 Volts

Trade No.	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Light Center Length, In.	Base Regularly Supplied	Std. Pkg.	Price Each Clear
7189	100	1400	G-25	3 $\frac{1}{8}$	5	3	Med. screw	60	\$2.25
7194	250	4600	G-30	3 $\frac{3}{4}$	5 $\frac{1}{2}$	3	Med. screw	24	4.50

## MAZDA C LAMPS FOR FLOOD LIGHTING SERVICE

Round Bulb—110, 115 and 120 Volts

8773	250	3100	G-30	3 $\frac{3}{4}$	5 $\frac{1}{2}$	3	Med. screw	24	\$4.50
8774	500	7800	G-40	5	7 $\frac{1}{4}$	4 $\frac{1}{4}$	Mog. screw	12	7.13

As lamps for 110, 115 and 120 volts cover approximately 90 per cent of the demand, lamps of other voltages between 100 and 130 are not regularly carried in stock but may be obtained at the same prices.

†This lamp may be supplied without extra charge fitted with unskirted Mogul screw base, giving a light center length of 3 $\frac{3}{8}$  inches and a maximum over all length of 5 $\frac{3}{4}$  inches.

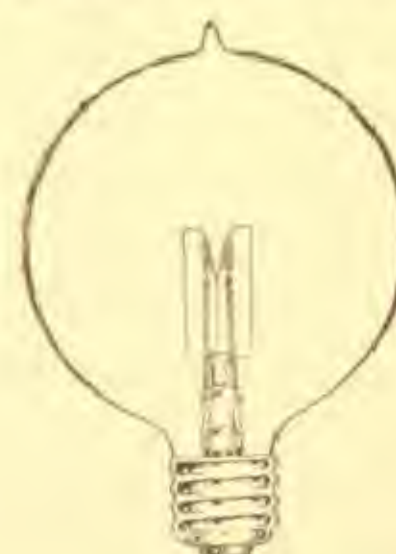
‡Can be burned in any position except within 45 degrees of vertically tip down.

Orders should specifically state whether for stereopticon or flood lighting service.

## MAZDA C LAMPS FOR LOCOMOTIVE HEADLIGHT SERVICE



G-25  
100 Watts  
30 to 34 Volts



G-30  
250 Watts  
30 to 34 Volts

These lamps are for use on locomotives equipped with generator sets.

Round Bulb—30 to 34 Volts

Trade No.	Voltage	Watts	Approx. Lumens	Type Bulb	Diam. Inches	Length Inches	Light Center Length, In.	Base Regularly Supplied	Std. Pkg.	Price Each Clear
9259	30 to 34	100	1550	G-25	3 $\frac{1}{8}$	5	3	Med. screw	60	\$2.25
9261	30 to 34	250	4500	G-30	3 $\frac{3}{4}$	5 $\frac{1}{2}$	3	Med. screw	24	4.50

Can be burned in any position except within 45 degrees of vertically tip down.

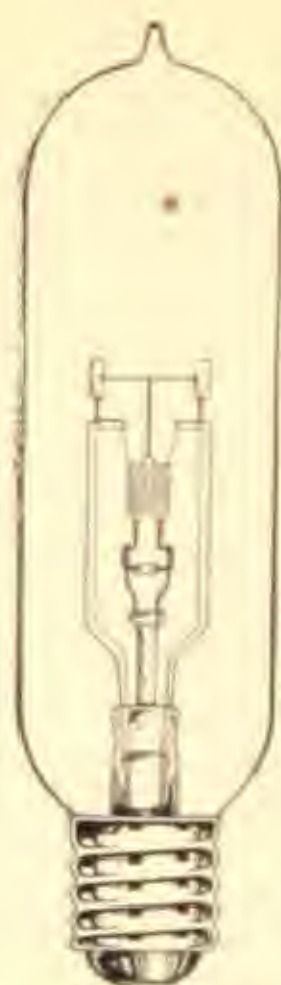
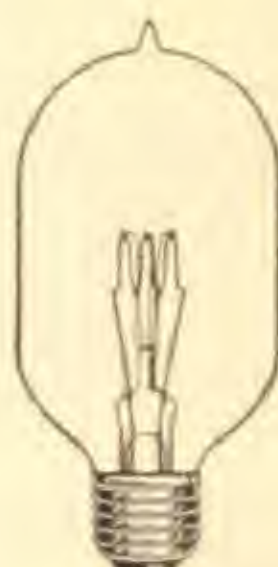
Illustrations are one-fourth actual size.



## NORTHERN LIGHT MAZDA LAMPS

MAZDA C LAMPS IN TUBULAR BULBS FOR MOTION PICTURE AND  
STEREOPTICON PROJECTION SERVICE

## SCHEDULE 10

T-16  
300 Watts  
28-32 VoltsT-20  
600 and 900 Watts  
28-32 VoltsT-20  
400 Watts  
110, 115 and 120 VoltsT-20  
1000 Watts  
110, 115 and 120 Volts

The Mazda C lamps in tubular bulbs listed below are used in small motion picture machines and projection or stereopticon lanterns. The concentrated light source placed in a tubular bulb permits of a more efficient utilization of light as the lens equipment can be placed closer to the light source and therefore should be used wherever possible in preference to round bulb lamps. The range of voltages permits the adoption of these lamps on the customary 110, 115 and 120-volt circuits as well as those of lower voltages.

Trade No.	Volts	Size of Lamp Watts	Approx. Lumens	Type Bulb	Diam. Inches	Max. Length Over All Light Center Inches	Light Center Length, In.	Base Regularly Supplied	Std. Pkg.	Price Clear Each
169940	28-32	*600	15000	T-20	2½	9½	4¾	Mog. screw	6	\$8.00
169941	28-32	**900	24000	T-20	2½	9½	4¾	Mog. screw	6	9.00
200144	28-32	300	6800	T-16	2	5½	3	Med. screw	12	5.50
169945	110, 115 & 120	†400	8200	T-20	2½	5½	3	Med. screw	6	7.00
169944	110, 115 & 120	1000	24000	T-20	2½	9½	4¾	Mog. screw	6	12.00

\*This 20-ampere 600-watt Mazda C lamp is recommended for short throws and small screens such as found in churches, lodges, etc., where a less amount of light than that given by the 30-ampere 900-watt lamp is adequate and for use on country home lighting outfits, where the power supply is limited. It is not recommended for general motion picture theater projection service.

\*\*This 30-ampere 900-watt Mazda C lamp is recommended in all cases for general motion picture theater projection service.

†This lamp may be obtained with medium screw skirted base at the same price, having a light center length of 3⅞ inches and a maximum over all length of 6⅜ inches.

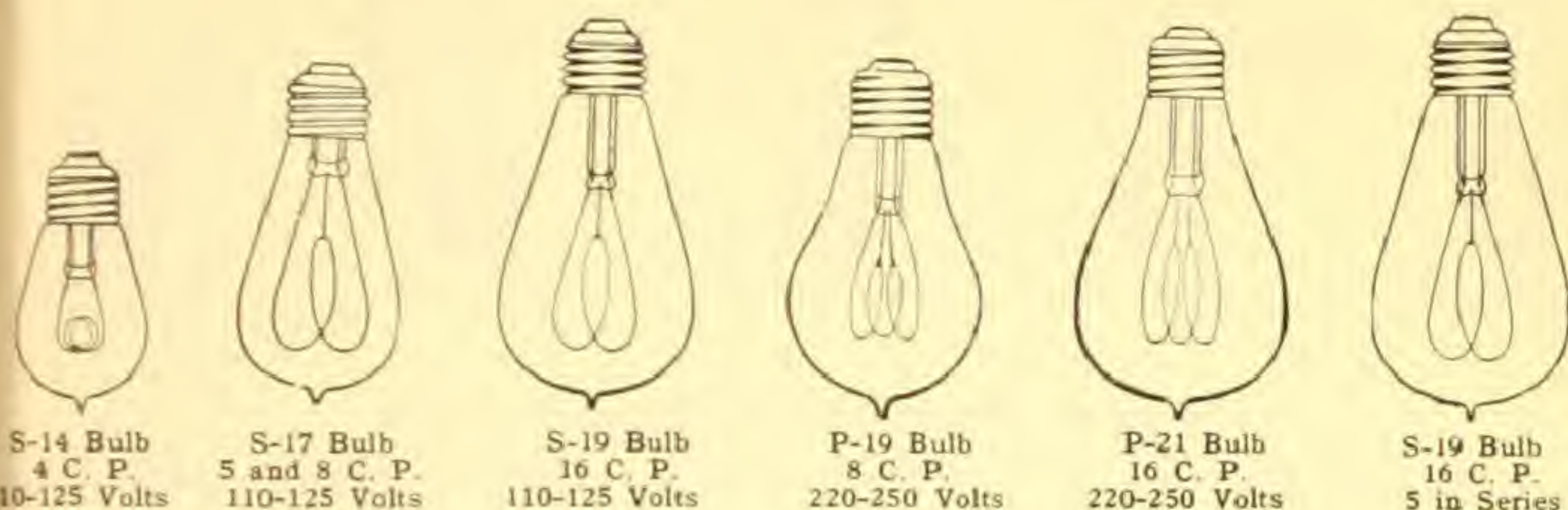
The above lamps should always be burned vertically, tip up.

As lamps for 110, 115 and 120 volts cover approximately 90 per cent of the demand, lamps for other voltages between 100 and 130 are not regularly carried in stock in all places but may be obtained at the same prices.

For price of frosted lamps, see Schedule of Extra Charges on a previous page.



# CARBON LAMPS



Illustrations are One Fourth Actual Size

## LAMPS FOR STANDARD LIGHTING SERVICE

### SCHEDULE C-1

#### STRAIGHT SIDE BULBS

Fitted with Medium Screw Base—110 to 125 Volts

Trade No.	Candle Power	Watts per C. P.	Standard Pkg Qty.	Style Bulb	Bulb Diam. Inches	Length Inches Over All	Price, Each Clear
7260	4	4.8	250	S-14A	1 3/4	3 1/4	\$0.35
7261	5	4.0	250	S-17A	2 1/8	4 1/4	.35
7262	8	4.1	250	S-17A	2 1/8	4 1/4	.35
7263	16	3.5	250	S-19A	2 3/8	4 3/4	.35
7264	†16	4.0	250	S-19A	2 3/8	4 3/4	.35
7265	32	3.6	125	S-24A	3	5 3/4	.45
220 to 250 Volts							
7257	8	4.4	250	P-19A	2 3/8	4 3/8	.45
7258	16	3.8	200	P-21A	2 5/8	4 7/8	.45
7266	32	3.8	125	S-24A	3	5 3/4	.55

## ELECTRIC STREET RAILWAY LAMPS

### SCHEDULE C-2

Fitted with Medium Screw Base

9194	16	4	250	S-19A	2 3/8	4 3/4	35
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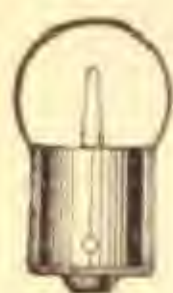
The lamps listed in Schedule C-2 are selected for amperes and are labeled for use, five in series, on 525, 550, 575, 600, 625 and 650 volts.

Standard package discounts and allowances for lamps in above schedules can be given on orders for not less than a standard package quantity of one type and size of bulb. For any one type and size of bulb, lamps of different voltages, wattages, efficiencies and finish of bulb may be combined in on package.

†Street railway.



## MAZDA MINIATURE AUTOMOBILE LAMPS



Mazda-61



Mazda-63



Mazda-81



Mazda-1125



Mazda-1129



Mazda-1126

## MAZDA MINIATURE AUTOMOBILE LAMPS

Fitted with either single contact (S. C.) or double contact (D. C.) bayonet candelabra base

## Mazda B Lamps for Rear and Speedometer Lights

Two in Series, Each Lamp 3-4 Volts

Trade No.	Mazda No.	Bayonet Candelabra Base	RATINGS APPEARING ON LAMPS		Both	Unit Pkg.	Price Each Clear
			Volts	Candle Power			
149973	61	S. C.	3-4	2	G- 6	10	\$0.45
149974	62	D. C.					

## Mazda B Lamps for Rear and Speedometer Lights

149975	63	S. C.	6-8	2	G- 6	10	.45
149976	64	D. C.					

## Mazda B Lamps for Side and Auxiliary Headlights

149979	81	S. C.	6-8	4	G- 8	10	.50
149980	82	D. C.					

## Mazda B Lamps for Headlights

150017	1125	S. C.	6-8	15	S-11	10	.75
150018	1126	D. C.					

## Mazda C Lamps for Headlights and Spotlights

150019	1129	S. C.	6-8	21	S-11	10	.80
150020	1130	D. C.					

## MAZDA MINIATURE MOTORCYCLE LAMPS

## Mazda B Lamps for Rear Lights

Trade No.	Mazda No.	Bayonet Candelabra Base	RATINGS APPEARING ON LAMPS		Bulb	Unit Pkg.	Price Each Clear
			Volts	Candle Power			
150021	63	S. C.	6-8	2	G- 6	10	\$0.45

## Mazda C Lamps for Headlights and Spotlights

150022	1129	S. C.	6-8	21	S-11	10	.80
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Order lamps by Mazda numbers.

Illustrations are one half actual size.



Mazda-1130



Mazda-87



Mazda-89

Mazda-1139  
1141



## MAZDA MINIATURE AUTOMOBILE LAMPS

### MAZDA LAMPS FOR FORD CARS

6-8 volt lamps to be burned two in series on magneto lighting systems.

To insure most satisfactory service, see that two Mazda-1126 lamps or preferably two Mazda-1130 lamps are operated in series.

Fitted with double contact (D. C.) bayonet candelabra base.

#### Mazda B Lamps for Headlights

Trade No.	Mazda No.	Bayonet Candelabra Base	RATING APPEARING ON LAMPS		Bulb	Unit Pkg.	Price Each
			Volts	Candle Power			
150047	1126	D. C.	6-8	15	S-11	10	\$0.75

#### Mazda C Lamps for Headlights

150048	1130	D. C.	6-8	21	S-11	10	.80
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6-8 volt lamps, for cars equipped with 3-cell (lead type) storage battery generator lighting system. Fitted with double-contact (D. C.) bayonet candelabra base.

#### Mazda B Lamps for Rear and Auxiliary Headlights

150044	63	S. C.	6-8	2	G-6	10	.45
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#### Mazda B Lamps for Headlights

150049	1125	S. C.	6-8	15	S-11	10	.75
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#### Mazda C Lamps for Headlights

150050	1129	S. C.	6-8	21	S-11	10	.80
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### MAZDA LAMPS FOR AUTOMOBILE SERVICE

Fitted with either single-contact (S. C.) or double-contact (D. C.) bayonet candelabra bases.

#### †Mazda B Lamps for Rear and Speedometer Lights

Trade No.	Mazda No.	Bayonet Candelabra Base	RATING APPEARING ON LAMPS		Bulb	Unit Pkg.	Price Each
			Volts	Candle Power			
150028	67	S. C.	12-16	2	G-6	10	\$0.45
150029	68	D. C.					

#### Mazda B Lamps for Side and Auxiliary Headlights

150030	89	S. C.	12-16	4	G-8	10	.55
150031	90	D. C.					

#### Mazda B Lamps for Headlights

185187	1139	S. C.	12-16	15	S-11	10	.80
185188	1140	D. C.					

#### Mazda C Lamps for Headlights and Spotlights

185189	1141	S. C.	12-16	21	S-11	10	.85
185190	1142	D. C.					

†For use two in series on 12-16 volt system, Mazda No. 63 and 64 are customarily employed.

Order lamps by Mazda numbers.

Illustrations are one-half actual size.

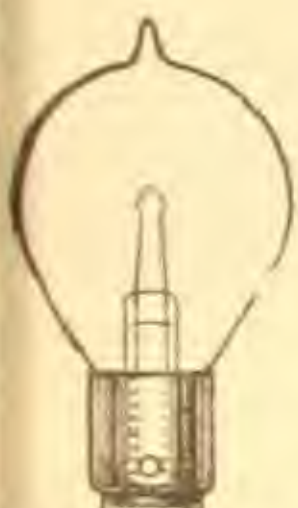


Mazda-1126



Mazda-1126

Candelabra base



Mazda-1130



Mazda-67



Mazda-89



Mazda-1139 & 1141



## MAZDA MINIATURE LAMPS

Mazda-1  
Mazda-2

Mazda-11

Mazda 16  
17, 19

Mazda 31



Mazda 35

## MAZDA LAMPS FOR FLASH-LIGHT SERVICE

Fitted with miniature screw base.

## For Two-cell Flashlight Batteries

Trade No.	Mazda No.	Description and Use	NOMINAL RATING		Bulb	Price Each Clear
			Volts	Amps.		
53564	1	Flat end clear bulb for case type battery	2.2	0.25	FE3 $\frac{3}{4}$	\$0.30
53598	11	Round clear bulb for case or tubular type battery	2.3	0.27	G-3 $\frac{1}{2}$	.30
53599	16		2.5	0.30	G-4 $\frac{1}{2}$	.30

## For Three-cell Flash-light Batteries

53631	2	Flat end clear for case type battery	3.3	0.25	FE3 $\frac{3}{4}$	.30
53562	17	Round clear bulb for tubular type battery	3.8	0.30	G-4 $\frac{1}{2}$	.30

## For Five-cell Flash-light Batteries

53563	31	Round clear bulb for tubular type battery	6.2	0.30	G-5 $\frac{1}{2}$	.30
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## MAZDA LAMPS FOR STANDARD DRY BATTERY SERVICE

## For One-cell Standard Dry Battery

53590	19	Round clear bulb	1.25	0.60	G-4 $\frac{1}{2}$	.30
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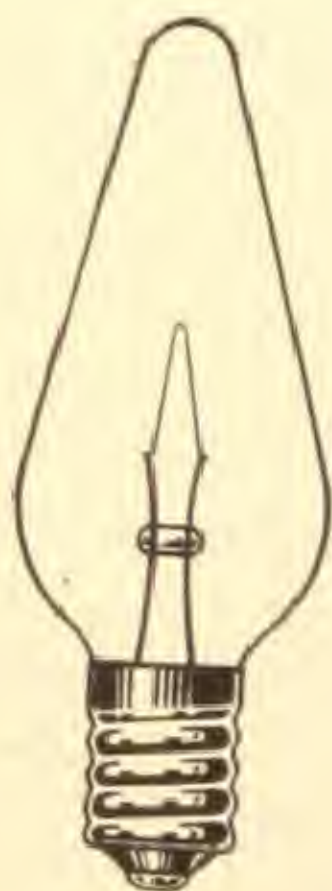
## For Two Cells of Standard Dry Batteries

45008	35	Round clear bulb	2.4	0.80	G-5 $\frac{1}{2}$	.30
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Unit package quantity, 10 lamps.

## MAZDA LAMPS FOR CHRISTMAS TREE OUTFITS, DECORATIONS, ETC.

## Miniature Screw Base

C-6  
3 $\frac{1}{2}$  and 4 VoltsC-6  
6 and 15 Volts

Trade No.	Description	Volts	Type Bulb	Unit Pkg. Quantity	PRICE, EACH	
					Clear	Frosted or Superficially Colored
194514	For use on 3 cells of dry batteries	3 $\frac{1}{2}$	C-6	10	\$0.38	\$0.41
194515	For use 8 in series on 28-32-volt circuits	4	C-6	10	.38	.41
194516	For use on 3 cells of storage battery	6	C-6	10	.38	.41
194517	For use 8 in series on 110-125-volt circuits	15	C-6	10	.38	.41

†Superficially colored lamps may be supplied in red, blue, green, orange and opal colors.  
Unit packages consist of ten lamps of only one voltage, color, finish, shape and size of bulb.



## LAMP FROSTING AND COLORING FLUID

### ETCH-O-LITE

Etch-O-Lite is applied by dipping the lamp, or other article to be frosted in the solution. The coating is allowed to remain on the glass for 1½ or 2 minutes, then it is scraped back into the can and the article washed in water and dried. The gloss is removed from the glass, leaving a smooth satin-like frosted surface.

Any size Mazda lamp can be frosted with Etch-O-Lite at a cost of a fraction of a cent for material.

Etch-O-Lite will not harm the hands or clothing. It may be shipped by freight, express or parcel post. Containers are guaranteed against leakage for one year.

If the Etch-O-Lite solution becomes too thick, it may be thinned to proper consistency by adding a small quantity of Etch-O-Lite Thinner.

The dipping machine is used to secure uniform results when bowl frosting lamps.

Illustrations show sizes of cans and largest lamp that can be dipped.



Etch-O-Lite  
4-lb. Can  
150-W Lamp



Etch-O-Lite  
Thinner  
½-pt. Can



Etch-O-Lite  
12 and 16 lb. Can  
500-W Lamp



Etch-O-Lite  
8-lb. Can  
300-W Lamp



Etch-O-Lite  
Dipping Machine

Trade No.	Size Can	Contents Pounds	Price per Pound
141408	Small	4	\$2.60
141409	Medium	8	2.50
141410	Large	12	2.40
141411	Special	16	2.30

### Etch-O-Lite Thinner

Trade No.	Description	Price per Can
141412	Thinner, ½ pint cans.....	\$1.80

### Etch-O-Lite Dipping Machines

Trade No.	Description	Price Each
199374	Dipping machines .....	\$6.00

### NORTHERN COLORING FLUID

A high-grade fluid for coloring incandescent lamps that is widely used and giving great satisfaction.

Gives the lamps that snap and brilliance usually found only in natural colored glass. Furnished in blue green, purple, amber, red, ruby, violet, canary, pink and frosting. Satisfactory results guaranteed when used according to directions. Pint and quart sizes in bottle and individual cartons; large sizes in jugs. A dipping cup is furnished with each pint and quart.



Coloring Fluid

Trade No.	Mfrs. No.	Size Bottle	Price Each
199369	2762	Gallon	\$13.80
199370	2763	Half-gallon	10.85
199371	2764	Quart	4.45
199372	2765	Pint	2.90
199373	2766	Half-pint	2.00



## REED'S GLASS ETCHING OUTFITS



Reed's Glass Etching Outfit



Etched Bulb

Showing the Clean-cut Impression  
made by Etching Ink on  
any Round, Flat or  
Irregular Surface

The loss sustained by hospitals, office buildings, industrial plants and similar institutions on stolen electric light bulbs and general glassware amounts to thousands of dollars a year.

Reed's Glass Etching Ink Outfit supplies the needed protection. It can be used to advantage by any person who owns, sells or manufactures glass articles of any description, to prevent loss by theft, to transfer patent notations and to mark with individual name or design.

The outfit, as illustrated above, consists of one-half pint can of Reed's Etching ink, lead inking pad, camel's hair brush, flexible form adapter and rubber stamp to make impression. With this outfit 10000 to 12000 pieces of glassware can be easily and permanently marked. The outfit will pay for itself in a short time if the loss on stolen glassware is at all serious.

Marking glassware of any shape, round, flat or irregular is a matter of ease and simplicity when Reed's Glass Etching Ink is used.

With just a little practice, the outfit can be handled by any one and uniformly good results will be obtained. An ordinary ball-pointed steel pen may be used with the ink for writing on glass. Letters are etched into the surface.

Reed's Etching Ink—the only preparation of its kind on the market, is made by the manufacturers of Etch-O-Lite. It is harmless to hands or clothing, it is rapid, permanent and economical.

Trade No.	Description	Price Each
206549	Standard outfit including ink, . . .	\$21.00
206550	1/2-pint can ink only . . . . .	12.75

Prices for special designs furnished on application.



## BRASCOLITES

PATENTED

### TYPES AF AND AFB

All White Glazed Porcelain Enameled Reflectors

Type AFB is the same as Type AF but with band finished leather bronze.



Type AF

#### Medium Socket

TRADE NOS.		Size of Lamp Watts	DIMENS., INCHES		Ship. Wt., Lbs.	Price Each
Type AF	Type AFB		Outside Diam.	Bowl		
149716	197242	40-75	10	6 1/4	7	\$8.00
149717	197243	100-150	14	8 1/4	12	11.00
149718	197244	200	18	11	22	15.00

#### Mogul Socket

149719	197245	300	18	11	22	16.00
149720	197246	400-500	22	14	42	24.00

Furnished without additional charge.

### TYPES AG AND AGB

#### WITH SINGLE CHAIN HANGER

Reflector Same as Type AF; Hanger Leather Bronze Finish

Type AGB is the same as Type AG but with reflector band finished leather bronze.

#### Medium Socket

TRADE NOS.		Size of Lamp Watts	DIMENS., INCHES		Ship. Wt., Lbs.	Price Each
Type AG	Type AGB		Outside Diam.	Bowl		
149721	197247	40-75	10	6 1/4	11	\$13.00
149722	197248	100-150	14	8 1/4	16	16.00
149723	197249	200	18	11	25	20.00

#### Mogul Socket

149724	197250	300	18	11	25	21.00
149725	197301	400-500	22	14	47	29.00

Standard length, 4 feet. Additional length, per foot, 60 cents.

### TYPES AH AND AHB

#### WITH THREE-CHAIN HANGER

Reflector Same as Type AF; Hanger Leather Bronze Finish

Type AHB is the same as Type AH but with reflector band finished leather bronze.

#### Medium Socket

TRADE NOS.		Size of Lamp Watts	DIMENS., INCHES		Ship. Wt., Lbs.	Price Each
Type AH	Type AHB		Outside Diam.	Bowl		
197237	197302	40-75	10	6 1/4	12	\$13.50
197238	197303	100-150	14	8 1/4	17	16.50
197239	197304	200	18	11	26	20.50

#### Mogul Socket

197240	197305	300	18	11	26	21.50
197241	197306	400-500	22	14	47	29.50

Standard length, 4 feet. Additional length, per foot, 80 cents.

Pull switch furnished for any of the above fixtures at \$1.70 additional.



Type AH



## BRASCOLITES

PATENTED



Type WD

## TYPE WD, CLOSE CEILING STYLE

Band Finished Leather Bronze  
Reflector, White Glazed Porcelain Enamel  
Medium Socket

Trade No.	Size of Lamp Watts	DIMENS., INCHES		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
100168	40-60-75	11	6 1/4	7	\$9.00
100169	100-150	15	8 1/4	12	12.00
100170	200	19	11	22	16.00

## Mogul Socket

133333	300	19	11	22	17.00
133334	400-500	23	14	42	25.00

## TYPE XD, WITH SINGLE CHAIN HANGER

Band and Hanger Leather Bronze Finish  
Reflector, White Glazed Porcelain Enamel  
Medium Socket

Trade No.	Size of Lamp Watts	DIMENS., INCHES		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
100171	40-60-75	11	6 1/4	11	\$14.00
100172	100-150	15	8 1/4	16	17.00
100173	200	19	11	25	21.00

## Mogul Socket

133335	300	19	11	25	22.00
133336	400-500	23	14	47	30.00

Standard length, 4 feet. Additional length, per foot, 60 cents.

## TYPE YD, WITH THREE-CHAIN HANGER

Band and Hanger Leather Bronze Finish  
Reflector, White Glazed Porcelain Enamel  
Medium Socket

Trade No.	Size of Lamp Watts	DIMENS., INCHES		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
100174	40-60-75	11	6 1/4	12	\$14.50
100175	100-150	15	8 1/4	17	17.50
100176	200	19	11	26	21.50

## Mogul Socket

133337	300	19	11	26	22.50
133338	400-500	23	14	47	30.50

Standard length, 4 feet. Additional length, per foot, 80 cents.

Pull switch furnished for any of the above fixtures at \$1.70 additional.

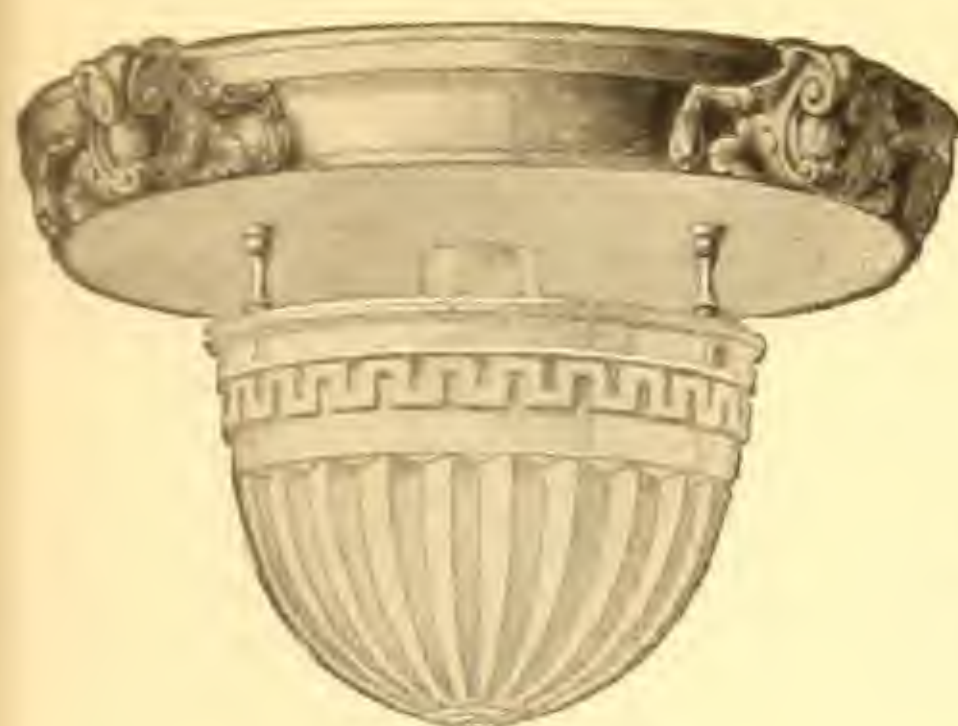


Type YD



# BRASCOLITES

PATENTED



Type IE

## TYPE IE, CLOSE CEILING STYLE

White Glazed Porcelain Enamel Reflector

Band Finished Leather Bronze Reflector

Medium Socket

Trade No.	Size of Lamp Watts	DIMENS., IN.		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
149745	40-60-75	10	6 1/4	9	\$11.00
149746	100-150	14	8 1/4	15	14.00
149747	200	18	11	26	18.00

Mogul Socket

149748	300	18	11	26	19.00
149749	400-500	22	14	45	27.00

## TYPE IF, WITH SINGLE CHAIN HANGER

Same as Type IE with Single Chain Hanger

Band and Hanger Leather Bronze Finish Reflector, White Glazed Porcelain Enamel

Medium Socket

Trade No.	Size of Lamp Watts	DIMENS., IN.		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
149750	40-60-75	10	6 1/4	13	\$16.00
149751	100-150	14	8 1/4	19	19.00
149752	200	18	11	31	23.00

Mogul Socket

149753	300	18	11	31	24.00
149754	400-500	22	14	50	32.00

Standard length, 4 feet. Additional length, per foot, 60 cents.

## TYPE IG, WITH THREE-CHAIN HANGER

Band and Hanger Leather Bronze Finish Reflector, White Glazed Porcelain Enamel

Medium Socket

Trade No.	Size of Lamp Watts	DIMENS., IN.		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
149755	40-60-75	10	6 1/4	14	\$16.50
149756	100-150	14	8 1/4	20	19.50
149757	200	18	11	31	23.50

Mogul Socket

149758	300	18	11	31	24.50
149759	400-500	22	14	50	32.50

Standard length, 4 feet. Additional length, per foot, 80 cents.

Pull switch furnished for any of the above fixtures at \$1.70 additional.



Type IG



## BRASCOLITES

PATENTED



Type WG

## TYPE WG

Ornamental Ring, Brass Metal, Finished  
Antique Gold Fret in Old Ivory.

Reflector, White Glazed Porcelain Enamel.

## Medium Socket

Trade No.	Size Lamp Watts	Dimens., In. Outside Diam.	Bowl	Ship Wt. Lbs.	Price Each
202939	100-150	17	9	12	\$25.00
202940	200	21	11½	19	35.00

## Mogul Socket

202941	300	21	11½	19	36.00
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## TYPE XG

## WITH SINGLE CHAIN HANGER

Ornamental Ring and Hanger, Brass Metal,  
Finished Antique Gold Fret in Old Ivory.

Reflector, White Glazed Porcelain Enamel.

## Medium Socket

Trade No.	Size Lamp Watts	Dimens., In. Outside Diam.	Bowl	Ship Wt. Lbs.	Price Each
202942	100-150	17	9	14	\$34.00
202943	200	21	11½	21	44.00

## Mogul Socket

202944	300	21	11½	21	45.00
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Standard length, 4 feet. Additional length,  
per foot, 60 cents.



Type YG

## TYPE YG

## WITH THREE CHAIN HANGER

Ornamental Ring and Hanger, Brass Metal,  
Finished Antique Gold Fret in Old Ivory.

Reflector, White Glazed Porcelain Enamel.

## Medium Socket

Trade No.	Size Lamp Watts	Dimens., In. Outside Diam.	Bowl	Ship Wt. Lbs.	Price Each
202945	100-150	17	9	15	\$38.50
202946	200	21	11½	22	48.50

## Mogul Socket

202947	300	21	11½	22	49.50
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Standard length, 4 feet. Additional length,  
per foot, 80 cents.

Pull switch furnished for any of the above  
fixtures at \$1.70 additional.



# BRASCOLITES

PATENTED



Type WF

## TYPE WF

Ornamental Ring, Brass Metal, Finished Antique Gold Fret in Old Ivory.

Reflector, White Glazed Porcelain Enamel.

### Medium Socket

Trade No.	Size Lamp Watts	DIMENS., INCHES		Shipping Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
202920	100-150	17	8 1/4	15	\$21.00
202921	200	21	11	25	30.00

### Mogul Socket

202922	300	21	11	25	31.00
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## TYPE XF

### WITH SINGLE CHAIN HANGER

Ornamental Ring and Hanger, Brass Metal, Finished Antique Gold Fret in Old Ivory.

Reflector, White Glazed Porcelain Enamel.

### Medium Socket

Trade No.	Size Lamp Watts	DIMENS., INCHES		Shipping Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
202923	100-150	17	8 1/4	20	\$28.00
202924	200	21	11	30	37.00

### Mogul Socket

202925	300	21	11	30	38.00
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Standard length, 4 feet. Additional length, per foot, 60 cents.

## TYPE YF

### WITH THREE CHAIN HANGER

Ornamental Ring and Hanger, Brass Metal, Finished Antique Gold Fret in Old Ivory.

Reflector, White Glazed Porcelain Enamel.

### Medium Socket

Trade No.	Size Lamp Watts	DIMENS., INCHES		Shipping Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
202926	100-150	17	8 1/4	21	\$28.50
202927	200	21	11	31	37.50

### Mogul Socket

202928	300	21	11	31	38.50
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Standard length, 4 feet. Additional length, per foot, 80 cents.

Pull switch furnished for any of the above fixtures at \$1.70 additional.



Type YF



## BRASCOLITES

PATENTED



Type ED

## TYPE ED

Body Compo. Old Gold Finish. Reflector, White Glazed Porcelain Enamel

Trade No.	Size of Lamp Watts	DIMENSIONS, INCHES		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
190298	100-150 Medium Socket	17	8 $\frac{1}{4}$	70	\$45.00
13911	200 Medium socket	23	11	85	54.50
13912	300 Mogul socket	23	11	85	55.50
13913	400-500 Mogul socket	27	14	131	67.50

Silk-covered wire included. Length of fixture, 5 feet. Additional length, per foot, \$1.00.  
 Pull switch, \$1.70 additional.

## TYPE FD

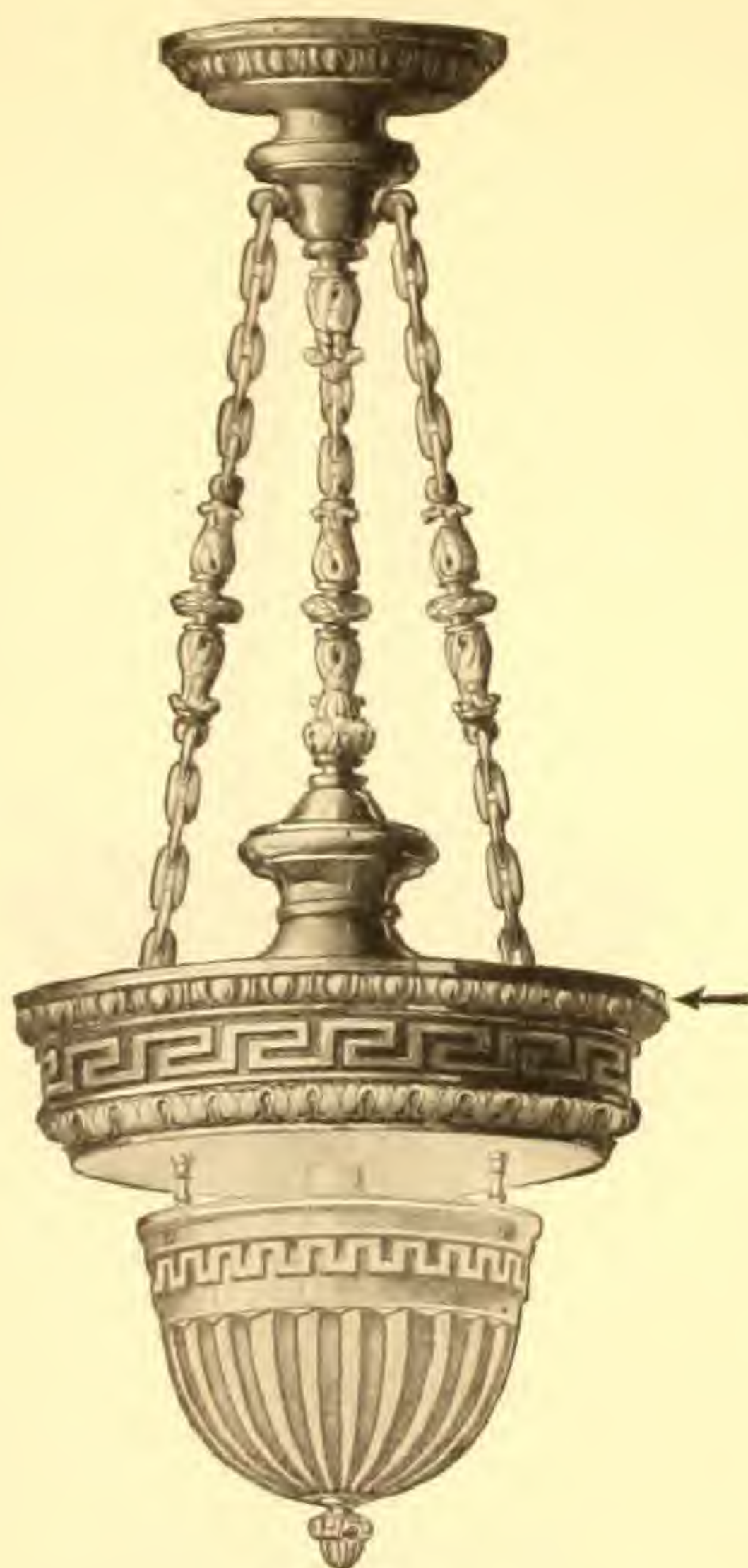
This is the same fixture as Type ED up to the arrow.

190299	100-150 Medium socket	17	8 $\frac{1}{4}$	50	25.00
13914	200 Medium socket	23	11	65	34.50
13915	300 Mogul socket	23	11	65	35.50
13916	400-500 Mogul socket	27	14	100	47.50



# BRASCOLITES

PATENTED



Type UE

## TYPES UE AND UEC

Reflector is of white glazed porcelain enamel; the body and canopy are of Compo, old gold finish. Type UEC is the same as Type UE up to the arrow.

		DIMENSIONS, INCHES			Type UE			Type UEC		
Size, Watts		Outside Diam.	Bowl	Length	Trade No.	Ship. Wt., lbs.	Price Each	Trade No.	Ship. Wt., lbs.	Price Each
100-150-200	Medium socket	16	8 $\frac{1}{4}$	60	133041	70	\$52.00	133045	55	\$27.00
200	Medium socket	19	11	60	133042	85	61.50	133046	65	36.50
300	Mogul socket	19	11	60	133043	85	62.50	133047	65	37.50
400-500	Mogul socket	25	14	60	133044	131	79.50	133048	90	49.50

Additional length of Type UE fixture, per foot, \$1.00

Any sprayed bronze finishes on Compo fixtures furnished without extra charge. Old ivory, 10 per cent additional. Burnished finishes, 25 per cent additional.



## BRASCOLITES

PATENTED



Type SE

## TYPE SE

Body Compo, Old Gold Finish.  
Reflector, White Glazed Porcelain Enamel  
Mogul Socket

Trade No.	Size of Lamp Watts	DIMENSIONS, INCHES		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
135716	400- 500	20	11 1/2	55	\$74.00
135717	400- 500	24	11 1/2	75	81.00
135718	750-1000	28	16	135	93.00

Silk-covered wire included.  
Length of fixture, 5 feet. Additional length, per foot, \$1.00.

## TYPE SEC

This is the same fixture as Type SE up to the arrow.

135719	400- 500	20	11 1/2	45	41.50
135720	400- 500	24	11 1/2	65	48.50
135721	750-1000	28	16	120	60.50

Any sprayed bronze finishes on Compo fixtures furnished without extra charge. Old ivory, 10 per cent additional. Burnished finishes, 25 per cent additional.



# BRASCOLITES

PATENTED



Type OE

## TYPE OE

Reflector, White Glazed Porcelain Enamel.  
Fret Old Ivory Ornamental Band, Compo—Old Gold Finish.  
Four Medium Sockets in Crown above Reflector.

Trade No.	Size Watts	DIMENS., INCHES		Length Feet	Shipping Wt., Lbs.	Price Each
		Outside Diam.	Bowl			
202982	100-150 Medium socket	18	9	5	85	\$75 00
202983	200 Medium socket	22	11 1/2	5	115	88 00
202984	300 Mogul socket	22	11 1/2	5	115	89 00

Additional length, per foot, \$1.00.

## TYPE OEC

This is the same fixture as Type OE up to the arrow.

Trade No.	Size Watts	DIMENS., INCHES		Shipping Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
202985	100-150 Medium socket	18	9	60	\$35 00
202986	200 Medium socket	22	11 1/2	90	48 00
202987	300 Mogul socket	22	11 1/2	90	49 00

Pull switch furnished for any of the above fixtures at \$1.70 additional.



## BRASCOLITES

PATENTED



Type RH



Type XJ



Type RJ

## TYPE XJ

Ornamental Body of Compo, Finished Verde Gold Fret Old Ivory.  
Reflector, White Glazed Porcelain Enamel.

Trade No.	Size Watts	DIMENS., INCHES		No. of Upper Lights	Shipping Wt., Lbs.	Price Each
		Outside Diam.	Bowl			
202958	100-150 Medium socket	17	9	3	65	\$56.50
202959	200 Medium socket	21	11 1/2	4	78	77.00
202960	300 Mogul socket	21	11 1/2	4	78	78.00
202961	400-500 Mogul socket	25	11 1/2	6	100	102.00

Standard length, 5 feet. Additional length, per foot, \$2.00. Pull switch, \$1.70

## TYPE WJ

Same as type XJ, without upper lights.

Trade No.	Outside Diam. In.	Size Bowl In.	Ship. Wt. Lbs.	Price Each
202962	17	9	60	\$43.00
202963	21	11 1/2	73	59.00
202964	21	11 1/2	73	60.00
202965	25	11 1/2	90	75.00

Length, 5 feet. Additional length, per foot, \$2.00. Pull switch, \$1.70.

## TYPE RH

Bracket Compo, finished Verde gold.  
Lamps not included. 2 lights, keyless sockets.

Trade No.	DIMENS. OVER ALL INCHES		Ship. Wt. Lbs.	Price Each
	Spread	Height		
202970	12	16	14	\$30.00

Canopy switch for Types RH and RJ furnished at \$2.50 additional.

## TYPE XJC

Same as type XJ up to the arrow.

Trade No.	Outside Diam. In.	Size Bowl In.	Ship. Wt. Lbs.	Price Each
202966	17	9	27	\$28.00
202967	21	11 1/2	38	38.50
202968	21	11 1/2	38	39.50
202969	25	11 1/2	52	45.50

Pull switch, \$1.70 additional.

## TYPE RJ

Bracket Compo, finished Verde gold.  
Lamp not included. 1 light, keyless socket.

Trade No.	Extends In.	Height Over All In.	Ship. Wt. Lbs.	Price Each
202971	7	16	8	\$17.50



# BRASCOLITES

PATENTED



Type RK

Type RL

Type WK

## TYPE WK

Ornamental Body of Compo, Verde Gold Finish.  
Reflectors, White Glazed Porcelain Enamel.

Trade No.	Size Watts	Outside Diam. Feet	Bowls Inches	Length Feet	Shipping Wt. Lbs.	Price Each
03000	{ One 400-500 mogul socket and Six 100-200 medium sockets }	5	{ 11 1/2 9 }	8	1225	\$392.50

3-inch iron loop on stem 15 inches above the canopy. Additional length, per foot, \$2.00.

## TYPE WCK

Same fixture as Type WK without the Compo Crown on the body.

03002	{ One 400-500 mogul socket and Six 100-200 medium sockets }	5	{ 11 1/2 9 }	8	1000	325.00
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NOTE.—Extra sockets and husks around top of band as on Type XJ, \$4.50 each additional.  
Winches for raising and lowering Types WK and WCK, \$37.50 additional.

## TYPE RK

Bracket Compo; Standard Finish, Verde Gold.  
Lamps not included.

## TYPE RL

Bracket Compo; Standard Finish, Verde Gold.  
With 5 Porcelain Candles. No lamps included.

Trade No.	Extends Ins.	Height Over All, In.	Shipping Wt., Lbs.	Price Each	Trade No.	Extends ins.	Height Over All, In.	Shipping Wt., Lbs.	Price Each
03004	15	22	35	\$55.00	203005	16	28	35	\$65.00

Canopy switch for Types RK and RL, \$2.50 additional



## BRASCOLITES

PATENTED



Type PE



Type PD



Type PG



Type PF

To fill a constantly increasing demand for fixtures which combine efficiency with artistic appearance, there has been developed a number of types which will be found very satisfactory for residence service.

Types PE, PD, PG and PF are designed for installation in rooms with low ceilings such as bedrooms, living rooms, etc., and are to be mounted directly against the ceiling.

## TYPE PE

Reflector White Glazed Porcelain Enamel  
Standard Finish, Tusk Ivory  
Rose Decorated Bowl in Natural Colors  
Medium Socket

Trade No.	Size Watts	DIMENSIONS, IN.		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
096751	40-75	15	9	12	\$20.50
096752	100-200	19	11½	22	26.00
096753	300	19	11½	22	27.00

Mogul Socket

## TYPE PD

Reflector, White Glazed Porcelain Enamel  
Standard Finish, Tusk Ivory  
Forget-Me-Not Decorated Bowl in Natural Colors  
Medium Socket

Trade No.	Size Watts	DIMENSIONS, IN.		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
096754	40-75	15	9	12	\$20.50
096755	100-200	19	11½	22	26.00
096756	300	19	11½	22	27.00

Mogul Socket

## TYPE PG

Reflector, White Glazed Porcelain Enamel  
Standard Finish, Tusk Ivory  
Daisy Decorated Bowl in Natural Colors  
Medium Socket

Trade No.	Size Watts	DIMENSIONS, IN.		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
096757	40-75	15	9	12	\$20.50
096758	100-200	19	11½	22	26.00
096759	300	19	11½	22	27.00

Mogul Socket

## TYPE PF

Reflector, White Glazed Porcelain Enamel  
Standard Finish, Tusk Ivory  
Wisteria Decorated Bowl in Natural Colors  
Medium Socket

Trade No.	Size Watts	DIMENSIONS, IN.		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
096760	40-75	15	9	12	\$20.50
174771	100-200	19	11½	22	26.00
174772	300	19	11½	22	27.00

Mogul Socket

Pull switch concealed in body \$1.70 additional.



# BRASCOLITES

PATENTED



Type QE



Type RB

## TYPE QE

Bracket Metal, Standard Finish Rose Gold  
Reflector, White Glazed Porcelain Enamel

Trade No.	Size Watts	Extends Inches	Bowl Inches	Length Inches	Ship. Wt., Lbs.	Price Each
149836	100-150-200	18	9	21	50	\$70.00
Same fixture with candle substituted for knob at top.						
149837	100-150-200	18	9	21	50	75.00

## TYPE RB

Bracket Metal, Band Compo, Standard Finish, Rose Gold  
Reflector, White Glazed Porcelain Enamel

Trade No.	Size Watts	Extends Inches	Bowl Inches	Length Inches	Ship. Wt., Lbs.	Price Each
149838	40-60 or 100	18	7	26	52	\$46.75
149839	100 or 200	20	9	26	62	57.50

Pull switch, \$1.70 additional.

## TYPE UC

Body Compo, Standard Finish, Rose Gold  
Reflector, White Enamel Steel

Trade No.	Size Watts	Extends Inches	Bowl Inches	Height Over All Inches	Ship. Wt., Lbs.	Price Each
135737	60 or 100	18	8	21	43	\$30.00

## TYPE VAC

Metal Bracket, Leather Bronze Finish  
Reflector, White Glazed Porcelain Enamel

Trade No.	Size Watts	Extends Inches	Bowl Inches	Ship. Wt., Lbs.	Price Each
149841	60 or 100	12	6 1/4	15	\$17.50

For standard finishes other than specified, add 10 per cent.

## TYPE SF

Band Finished Leather Bronze. Reflector, White  
Glazed Porcelain Enamel Emblematic or Trade  
Mark White Etched Bowls, Emblems in Colors  
Medium Socket

Trade No.	Size Watts	DIMENS. INCHES		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
135735	200	19	11 1/2	23	\$33.50
149842	300	19	11 1/2	23	34.50
135736	400-500	23	16	23	44.00

Mogul socket furnished at 80 cents additional. Pull switch, \$1.70.

Prices as listed apply to any National Trade Mark or Emblem. Where individual trade mark, monogram or emblem is required, an extra charge of \$25.00 net will be made for etching plate from which any number of fixtures may be made.



Type UC



Type VAC



Type SF



## BRASCOLITES

PATENTED



## TYPE NE

Body Compo, Standard Finish Rose Gold  
Reflector, White Glazed Porcelain Enamel  
Mogul Socket in Bowl, Candles Medium Sockets

## 300-WATT SIZE

Trade No.	Description	DIMENSIONS, INCHES		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
149852	Four candles .....	23	11½	115	\$89.00
149853	Without candles .....	23	11½	100	65.00
400-500-WATT SIZE					
149854	Six candles .....	28	16	290	122.50
149855	Without candles .....	28	16	250	86.50
750-1000-WATT SIZE					
149856	Eight candles .....	40	20	390	192.00
149857	Without candles .....	40	20	370	144.00

Length, 5 feet. Additional length, per foot, \$2.00

½-inch insulating joint and silk-covered wire included.

## TYPE NEC

This is the same fixture as type NE up to the arrow.

Trade No.	DIMENSIONS, INCHES		Ship. Wt., Lbs.	Price Each
	Outside Diam.	Bowl		
149858	23	11½	90	\$44.50
149859	28	16	190	60.75
149860	40	20	300	107.00

Any sprayed bronze finishes on Compo fixtures furnished without extra charge. Old Ivory, 10 per cent additional. Burnished finishes, 25 per cent additional.

Body and Reflector

149851  
149852  
149853  
149854

½-inch Additional



Type RE



# BRASCOLITES

PATENTED



TYPE XA

Body compo, rose gold finish.  
Reflector, white enameled steel.

400 or 500-watt, Mogul Socket and 8 Candelabra Medium Sockets

Trade No.	Style	Outside Diam. Inches	Bowl Inches	Length Feet	Ship. Wt. Lbs.	Price Each
1431		36	16	6	350	\$148.00
1432	Without 8 candelabra lights.				330	100.00
1433	Hexagon	24	11½	5	315	101.50
1434	Without 6 candelabra lights.				300	65.50

½-inch insulating joint, tripod and silk covered wire included.  
Additional length, per foot, \$2.00.

## TYPE XAC

Type XAC is fixture XA up to the arrow,

Trade No.	Style	Outside Diam. Inches	Ship. Wt. Lbs.	Price Each
61435	Octagon	36	240	\$67.50
61436	Hexagon	24	220	44.00

## TYPE RB

Bracket Metal, Band Compo, Standard Finish Rose Gold  
Reflector, White Enameled Steel

Trade No.	Size Watts	Extends Inches	Bowl Inches	Length Inches	Ship. Wt. Lbs.	Price Each
149838	40-60 or 100	18	7	26	62	\$46.75
149839	100 or 200	20	9	26	62	57.50

Pull switch concealed in body and wired, \$1.70 additional.



Type RB



## BRASCOLITES

PATENTED

## TYPE YB

Body Compo, Rose Gold Finish  
Reflector, White Glazed Porcelain Enamel  
Medium Socket

Trade No.	Size of Lamp Watts	DIMENS., INCHES		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
149871	40-60-75	14	7	25	\$31.00
149872	100-150-200	17	9	36	41.75
149873	200	22	11½	55	53.25

## Mogul Socket

149874	300	22	11½	55	54.25
149875	400-500	27	16	122	67.75
149876	400-500	36	16	210	83.00

Length, 4 feet. Additional length, per foot, \$1.80. ¾-inch insulating joint and silk-covered wire included in above prices.

Pull switch furnished at \$1.70 additional



Type YB

## TYPE XB

Body Compo, Rose Gold Finish  
Reflector, White Glazed Porcelain Enamel  
Medium Socket

Trade No.	Size of Lamp Watts	DIMENS., IN.		Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl		
122465	100-150-200	17	9	60	\$47.50
122466	200	22	11½	98	64.50

## Mogul Socket

122467	300	22	11½	98	65.50
122468	400-500	27	16	205	88.00
122469	400-500	36	16	310	109.00

¾-inch insulating joint and silk-covered wire included. Length of fixture, 5 feet. Additional length, per foot, \$1.00. Pull switch, \$1.70 additional.

## TYPE QB

Same as Type XB up to the arrow.

## Medium Socket

Trade No.	Outside Diam., In.	Ship. Wt., Lbs.	Price Each
122470	14	18	\$21.75
122471	17	28	32.50
122472	22	45	44.00

## Mogul Socket

122473	22	45	45.00
122474	27	91	58.50
122475	36	185	72.00

Any sprayed bronze finishes on Compo fixtures furnished without extra charge. Old Ivory, 10 per cent additional. Burnished finishes, 25 per cent additional.



Type XB



# BRASCOLITES

PATENTED



## TYPE QAX

Body Compo. Rose Gold Finish. Reflector, White Glazed Porcelain Enamel  
\*Mogul Socket

Trade No.	No. of Lights	Size of Lamp Watts	DIMENSIONS, INCHES			Length Feet	Ship. Wt., Lbs.	Price Each
			Outside Diam.	Bowl				
01089	7	{ 1-400 or 500 and 6-200 or 300 }	60	{ 16 and 11½ }		8	1175	\$389.50
01096	5	{ 1-400 or 500 and 4-200, 300 or 400 }	50	{ 11½ and 9 }		6	500	214.00

## TYPE QCX

Same fixtures as Type QA without the Compo crown on the body.

Trade No.	Outside Diam. Inches	Ship. Wt., Lbs.	Price Each
01095	60	770	\$322.00
01097	50	410	196.00

Three-inch iron loop on stem 15 inches above the canopy and silk-covered wire included.  
Additional length of fixture per foot, \$2.00.

\*If 200-watt lamps are used, Mogul to medium adapters will be required at 60 cents additional.

Winches furnished for raising and lowering these fixtures at \$37.50 additional. Cable extra.

Any sprayed bronze finishes on Compo fixtures furnished without extra charge. Old ivory, 10 per cent additional. Burnished finishes, 25 per cent additional.



## BRASCOLITES



Type BCH

## TYPE BCH

Reflector and ring white glazed porcelain enamel.

Designed to meet the requirements of hospitals.

## For General Illumination

Trade No.	No. of Lights	Size Watts	DIMENS., IN.			Ship. Wt., Lbs.	Price Each
			Outside Diam.	Bowl			
188378	1	40-75	10 1/4	8	12		\$14.75

## Combined General Illumination and Night or Signal Light

188379	2	100-150	14 1/4	9	15		20.75
188380	3	100-150	14 1/4	9	15		22.25

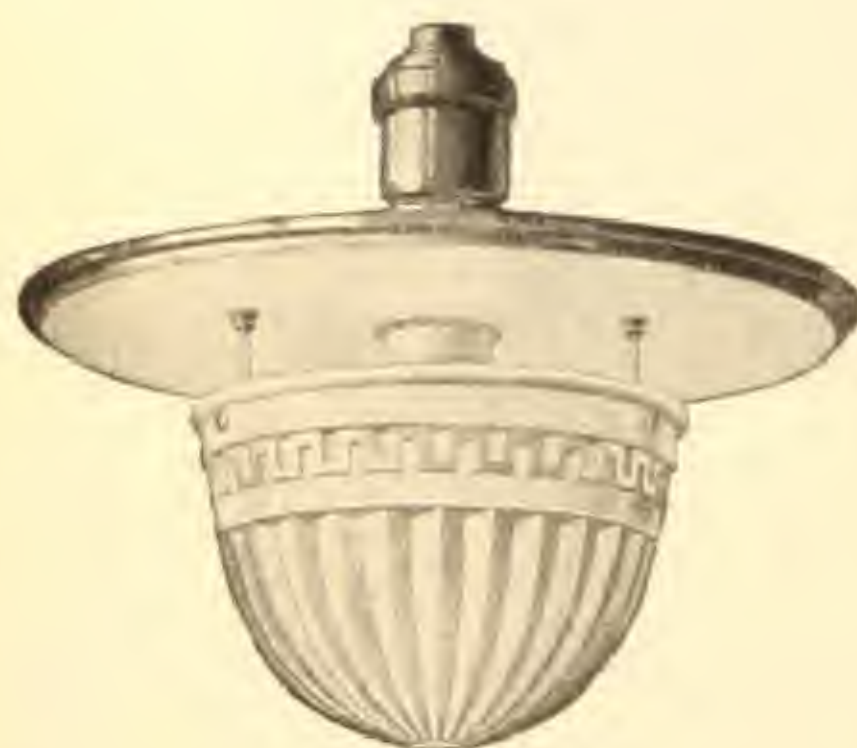


Type ZE

## TYPE ZE

White porcelain enameled reflector. Glass bowl, top clear, bottom etched.

Trade No.	Size Watts	DIMENS., IN.			Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl			
188383	50-150	14 1/4	7	11		\$12.00



Type GC

## TYPE GC

Prices cover fixtures only and not including socket, as the purpose is to attach to old sockets by means of a shade holder.

Trade No.	Size Watts	DIMENS., IN.			Ship. Wt., Lbs.	Price Each
		Outside Diam.	Bowl	Fitter		
188381	40-75	10	6 1/4	2 1/4	7	\$7.00
188382	100-150	14 1/2	8 1/4	2 1/4	10	11.00

Any size will be furnished with either 2 1/4, 3 1/4 or 4-inch fitter at no additional cost if specified on order.

Pull switch \$1.70 additional.

## TYPE BDX GUARD

Gymnasium fixture guard for any standard type Brascolites. Wood screws furnished when specified for installation on wood or plastered wood lath ceilings; toggle bolts when specified for use on metal, metal lath or hollow ceilings; expansion bolts on concrete, stone or glazed brick ceilings.



Type BDX Guard

Trade No.	Outside Diam. Guard Inches	Used on Reflectors Outside Diam. Inches	Ship. Wt. Lbs.	Price Each Guard Only
149826	13	10 1/4 or 11	6	\$ 5.00
149827	18	14 1/4, 15 or 16	8	7.50
149828	21	18 or 19	10	10.00
149829	25	22 or 23	12	17.50

Do not fail to give proper specifications with your order.



# AGLITE FIXTURES



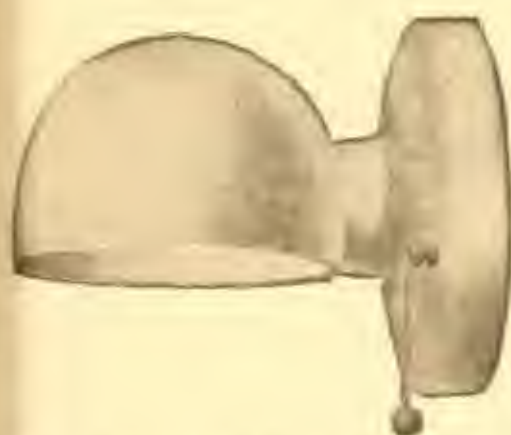
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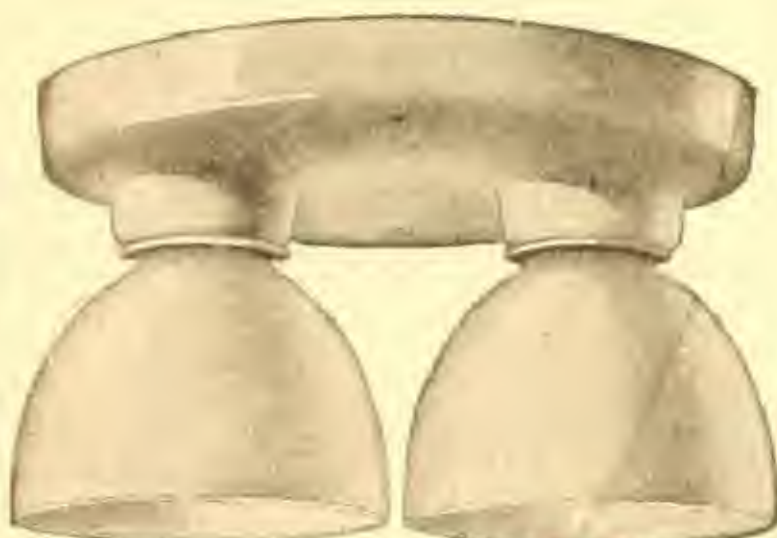
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Nos. 10808 and S-10809



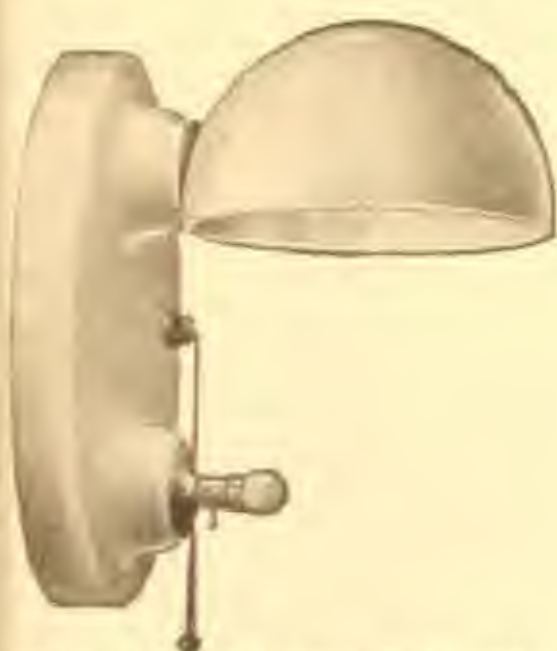
Nos. S-10804 and S-10805



Nos. S-10917 and S-10918



Nos. S-10919 and S-10920



Nos. S-10924 and S-10925



Nos. S-10915 and S-10916

Aglite (all glass) Fixtures, with their rich marble-like appearance, are the ideal lighting units for use in bathrooms, hospitals, or wherever sanitation and cleanliness are essential. All visible parts are made of white glass. They harmonize perfectly with hospital or bathroom furnishings, and the finish is permanent.

The method of installing is simple, no insulating joint canopy insulator or splicing of wires being required. All necessary parts are furnished with the fixture; a complete unit.

## Size, 75 Watts

Trade No.	Mfrs. No.	Description	Ship. Wt., Lbs.	Price Each
149894	S-10922	No switch	6	\$5.65
149895	S-10923	With switch	6	7.35
149903	S-10806	No switch	5	2.30
149904	S-10807	With switch	5	4.00
149887	S-10808	No switch	6	4.00
149888	S-10809	With switch	6	5.70
149889	S-10804	No switch	6	4.00
149890	S-10805	With switch	6	5.70
149905	S-10917	No switch	8	6.00
149906	S-10918	With switch	8	7.70
149907	S-10919	No switch	6	4.00
149908	S-10920	With switch	6	5.70
149912	*S-10924	No switch	7	9.00
149913	*S-10925	With switch	7	10.70
149914	†S-10915	No switch	7	6.00
149915	†S-10916	With switch	7	7.70

\*2 C. P. pilot light lamp included.

†Hubbell Receptacle and plug included.



## FOUR-IN-ONE LIGHTS

The two requisites for the successful illumination of stores, wholesale houses and industrial plants are combined in the effects of the Four-In-One. One is the decorative effect of the lighting system; the other, the display or sales effect imparted to the merchandise itself. An extremely valuable feature is that it is dustproof and bug-proof.

The characteristic feature of Four-In-One fixtures is the bowl, of which the lower half is porcelain enameled and the upper part of clear glass. A great part of the light from the bulb passes without loss through the clear part of the globe and is redirected by the reflector. The reflector is of white translucent glass which allows a small percentage of the light to pass through that the ceiling may be evenly illuminated. The result is a highly efficient illumination free from glare.



No. 8202

## CHAIN SUSPENSION FIXTURE, PLAIN BOWL

Trade No.	Mfrs. No.	Watts	Length Inches	Price Each
151008	8075	75	36	\$13.75
151009	8100	100	39	18.90
151010	8200	200	40	24.40
151011	8300	300	41	26.00
151012	8400	400	43	32.00
151013	8500	500	43	32.00

White enamel finish, black chain.

Similar to Doric type, but with plain bowl.

## CHAIN SUSPENSION FIXTURE, DORIC BOWL

151014	8072	75	36	14.90
151015	8102	100	39	20.15
151016	8202	200	40	26.00
151017	8302	300	41	27.90
151018	8402	400	43	34.50
151019	8502	500	43	34.50

White enamel finish, black chain.

## CEILING FIXTURE, PLAIN BOWL

151020	8071	75	10½	13.75
151021	8101	100	13	18.90
151022	8201	200	14	24.40
151023	8301	300	15½	26.00
151024	8401	400	17	32.00
151025	8501	500	17	32.00

White enamel finish.

## CEILING FIXTURE, DORIC BOWL

151026	8077	75	10½	14.90
151027	8107	100	13	20.15
151028	8207	200	14	26.00
151029	8307	300	15½	27.90
151030	8407	400	17	34.50
151031	8507	500	17	34.50

White enamel finish.

Similar to plain ceiling type, but with fancy bowl.

## REPLACEMENT TYPE FIXTURES

Designed to replace the old cluster fixture, the obsolete two, three and four-arm fixture, and the inefficient fixture enclosed in a glass ball. Can be attached to existing fixtures and fit regular 2¼-inch shade holders.



No. 8076

Trade No.	Mfrs. No.	Watts	Type Bowl	Length Inches	Price Each
149514	8076	75	Plain	6½	\$8.65
149516	8078	75	Doric	6½	9.75

\*Prices include socket, wire and ¾-inch iron hickey. Wire is 14-gauge asbestos covered. Fiber covering tube used, making insulated canopy unnecessary. \*No. 8076 without socket or wire.



# FOUR-IN-ONE LIGHTS



No. 8113



No. 8114

## CHAIN SUSPENSION FIXTURE, DORIC BOWL

Trade No.	Mfrs. No.	Watts	Length Inches	Price Each
164791	8113	100	42	\$45.60
164792	8213	200	42	52.50
164793	8313	300	42	54.50
164794	8413	400	42	64.10
154795	8513	500	42	64.10

Antique gold or ivory finish.

## CEILING FIXTURE, DORIC BOWL

164796	8114	100	15	45.60
164797	8214	200	16	52.50
164798	8314	300	16 1/2	54.50
164799	8414	400	18	64.10
164800	8514	500	18	64.10

Antique gold or ivory finish.

## CHAIN SUSPENSION FIXTURE DORIC BOWL

164801	8122	100	42	30.00
164802	8222	200	42	36.00
164803	8322	300	42	37.00
164804	8422	400	42	42.50
164805	8522	500	42	42.50

No. 8122

Antique gold or ivory finish.

## CEILING FIXTURE, DORIC BOWL

164806	8123	100	21	30.00
164807	8223	200	22	36.00
164808	8323	300	22 1/2	37.00
164809	8423	400	24	42.50
164810	8523	500	24	42.50

Antique gold or ivory finish.

Prices include socket, wire and 3/4-inch iron hickey. Wire is 14-gauge asbestos covered.



No. 8123



## FOUR-IN-ONE LIGHTS



No. 8155



No. 8156

## CHAIN SUSPENSION FIXTURE, DORIC BOWL

Trade No	Mfrs. No.	Watts	Length Inches	Price Each
164821	8155	100	42	\$31.50
164822	8255	200	42	37.70
164823	8355	300	42	39.00
164824	8455	400	42	47.90
164825	8555	500	42	47.90

Antique gold or ivory finish.



No. 8142

## CEILING FIXTURES, DORIC BOWL

164826	8156	100	15	31.50
164827	8256	200	16	37.70
164828	8356	300	16½	39.00
164829	8456	400	18	47.90
164830	8556	500	18	47.90

Antique gold or ivory finish.

## CHAIN SUSPENSION FIXTURE, DORIC BOWL

164831	8142	100	42	45.60
164832	8242	200	42	52.50
164833	8342	300	42	54.50
164834	8442	400	42	64.10
164835	8542	500	42	64.10

Antique gold or ivory finish.



No. 8143

## CEILING FIXTURE, DORIC BOWL

164836	8143	100	15	45.60
164837	8243	200	16	52.50
164838	8343	300	16½	54.50
164839	8443	400	18	64.10
164840	8543	500	18	64.10

Antique gold or ivory finish.

Prices include socket, wire and 3/8-inch iron hickey. Wire is 14-gauge asbestos covered.

Trade No. 206799 81 206800 82 206801 83 206802 84 For extra Standard Prices incl



FOUR-IN-ONE LIGHTS  
ADAM PERIOD



Chain Pendant Type



Ceiling Type

Adam Period Ceiling Type

Trade No.	Mfrs. No.	Watts	Length Over All Inches	Approx. Ship. Wt., Lbs.	Price Each
206795	8133	100-150	19	13	\$30.00
206796	8233	200	20	16	36.00
206797	8333	300	20½	16	37.00
206798	8433	{ 300, 400, 500 }	22	22	42.50

Glassware and sockets are same as for chain pendant type of like wattage.

Adam Period Chain Pendant Type

Trade No.	Mfrs. No.	Watts	Socket	DIMENSIONS, INCHES			Approx. Ship. Wt., Lbs.	Price Each
				Reflector Diam.	Bowl Diam.	Length Over All		
206799	8132	100-150	Medium	14	8	46	15	\$30.00
206800	8232	200	Medium	17	10	46	18	36.00
206801	8332	300	Mogul	17	10	46	18	37.00
206802	8432	300, 400, 500	Mogul	20	12	46	24	42.50

For extra length add, 75 cents per foot to list price.

Standard finishes are old ivory and antique gold.

Prices include socket, wire and 3/8-inch hickey. No. 14 gauge asbestos covered wire is used.



## FOUR-IN-ONE LIGHTS

LOUIS XIV PERIOD



Chain Pendant Type



Ceiling Type

## Louis XIV Period Ceiling Type

Trade No.	Mfrs. No.	Watts	Length Over All, Inches	Approx. Ship. Wt., Lbs.	Price Each
206812	8116	100-150	19	13	\$31.50
206813	8216	200	20	16	37.70
206814	8316	300	20½	16	39.00
206815	8416	{ 300, 400, 500 }	22	22	47.90

Glassware and sockets are same as for chain pendant type of like wattage.

## Louis XIV Period Chain Pendant Type

Trade No.	Mfrs. No.	Watts	Socket	DIMENSIONS, INCHES			Approx. Ship. Wt., Lbs.	Price Each
				Reflector Diam.	Bowl Diam.	Length Over All		
206816	8115	100-150	Medium	14	8	46	15	\$31.50
206817	8215	200	Medium	17	10	46	18	37.70
206818	8315	300	Mogul	17	10	46	18	39.00
206819	8415	300, 400, 500	Mogul	20	12	46	25	47.90

For extra length, add 75 cents per foot to list price.

Standard finishes are old ivory and antique gold.

Prices include socket, wire and ⅜-inch hickey. No. 14 gauge asbestos covered wire is used.



# FOUR-IN-ONE LIGHTS

## CLASSIC DESIGN



Ceiling Type

Classic Ceiling Type

Trade No.	Mfrs. No.	Watts	Length Over All Inches	Approx. Ship. Wt., Lbs.	Price Each
206828	8165	100-150	21	13	\$41.00
206829	8265	200	22	16	48.00
206830	8365	300	22 1/2	16	50.00
206831	8465	300, 400, 500	24	22	60.00

Glassware and sockets are same as for chain pendant type of like wattage.

Chain Pendant Type

Classic Chain Pendant Type

Trade No.	Mfrs. No.	Watts	Socket	DIMENSIONS, INCHES			Approx. Ship. Wt., Lbs.	Price Each
				Reflector Diam.	Bowl Diam.	Length Over All		
206832	8166	100-150	Medium	16	8	48	15	\$41.00
206833	8266	200	Medium	19	10	48	18	48.00
206834	8366	300	Mogul	19	10	48	18	50.00
206835	8466	300, 400, 500	Mogul	22	12	48	25	60.00

For extra length, add 75 cents per foot to list price.  
Standard finishes are old ivory and antique gold.

Prices include socket, wire and 3/8-inch hickey. No. 14-gauge asbestos covered wire is used.



## FOUR-IN-ONE LIGHTS

## ILLUMINATING DATA

A foot-candle is the unit of light intensity and the number of foot-candles required for an particular purpose is shown in the table below:

TABLE OF RECOMMENDED INTENSITIES

	Foot-Candles		Foot-Candles
Auditorium, church.....	2-4	Office	
Armory, public hall.....	3-6	Private, general.....	6-12
School		Drafting room.....	10-20
Class room, study room, library..	5-10	Industrial	
Store		For rough manufacturing.....	3-6
First floor department, shop on		For medium manufacturing.....	5-10
bright street or corner.....	6-12	For fine manufacturing.....	6-12
Other clothing, dry goods, haber-		For extra fine manufacturing...	10 up
dashery, millinery, jewelry, etc.	5-10		
Other drug, grocery, meat, bakery,			
book, florist, furniture, etc....	4-8		

NOTE.—For good results it is generally advisable to use the maximum figure given.

## METHOD OF CALCULATION REQUIRED FOR LAMP SIZE

1.—When outlets are not previously installed.

Four-in-one fixtures are furnished with chain hangers of satisfactory lengths for ceiling heights of 11 to 14 feet. For higher ceilings, chain lengths should be increased accordingly, adding one foot of chain for every foot of increased ceiling height above 14 feet.

Fixtures should be located at distances no greater than 1.33 times the distance from the glassware to the floor. If it should become necessary to space at greater distances the chain should be shortened accordingly, after which the proper lamp can be selected for the spacing adopted. When the outlets have already been located these two paragraphs are unnecessary.

2.—When ceiling outlets are already located.

Determine the number of square feet that each fixture must light by dividing the total number of fixtures into the area of the room. Having already selected the candle power intensity, refer to the tables on the opposite page, using that for "Narrow Rooms", "Medium Rooms", or "Wide Rooms", according to the classification into which the room to be illuminated will fall.

Proceed to the right on the lower horizontal line of the proper table until reaching the figure corresponding to the number of square feet which each lamp in the proposed installation will be required to light (which figure has just been determined). From that point proceed vertically until crossing the horizontal line representing the number of foot-candles desired. Select the lamp whose curve comes nearest to the point at which the pencil has arrived.

These results are not absolutely accurate but are sufficiently close for commercial purposes.

## Example

Assume problem of lighting an office, dimensions and data as given.

Ceiling height—12 feet 6 inches  
Width of room—36 feet 0 inches  
Length of room—78 feet 0 inches  
Outlets not located.

With the ceiling height of 12 feet 6 inches, the glass on the Four-in-One Fixture hangs approximately 9 feet 6 inches above the floor. Therefore the fixtures may be spaced at a maximum of 1.33 times 9 feet 6 inches or approximately 13 feet. Therefore, the final spacing determined is 12-foot centers along width of room, and 13-foot centers along the length of the room, thus making a symmetrical layout in both directions.

To determine the area in square feet per lamp, divide the area of the room, (36 feet x 78 = 2808 feet) by the number of units (three rows of 6 units each = 18), making 156 square feet per fixture.

Recommended intensity (from table) is 6 to 12 foot-candles. Select 10.

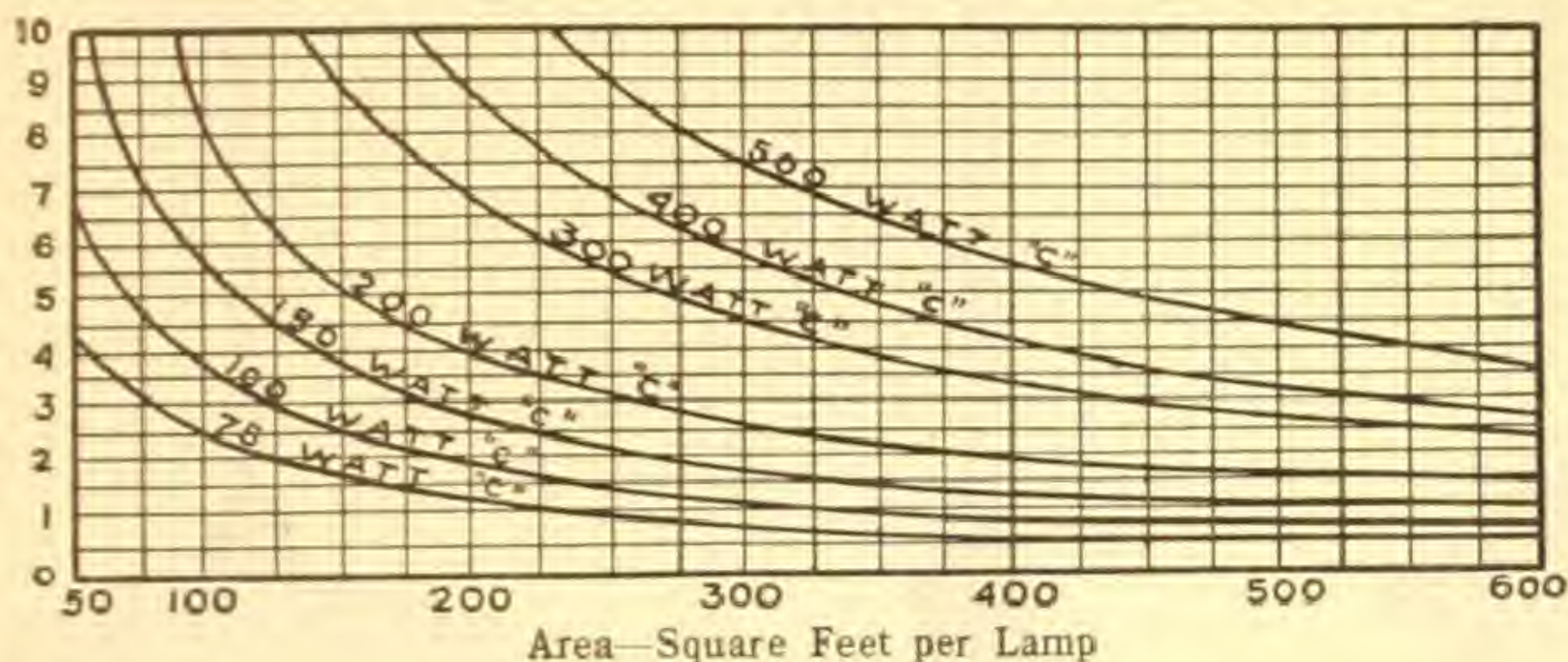
Proceed to diagrams on the opposite page, using medium width room diagram, as this room is three times as wide as high. Proceed along the horizontal to point 156, which is the number of square feet per lamp. From this point, follow imaginary vertical line till it intersects the 10 foot-candle line. The 300-watt curve comes nearest to the point at which the pencil has arrived. This will be the lamp to be used.



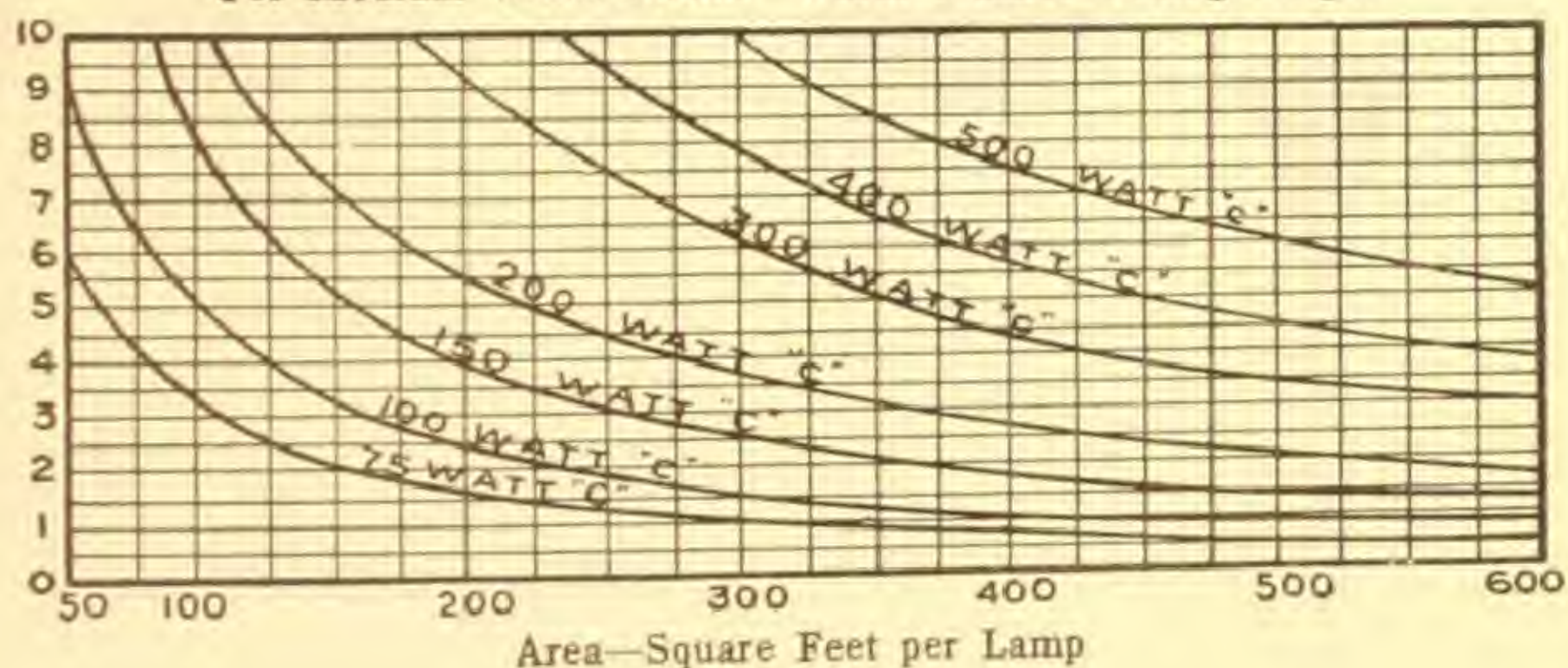
# FOUR-IN-ONE LIGHTS

## INTENSITY CURVES

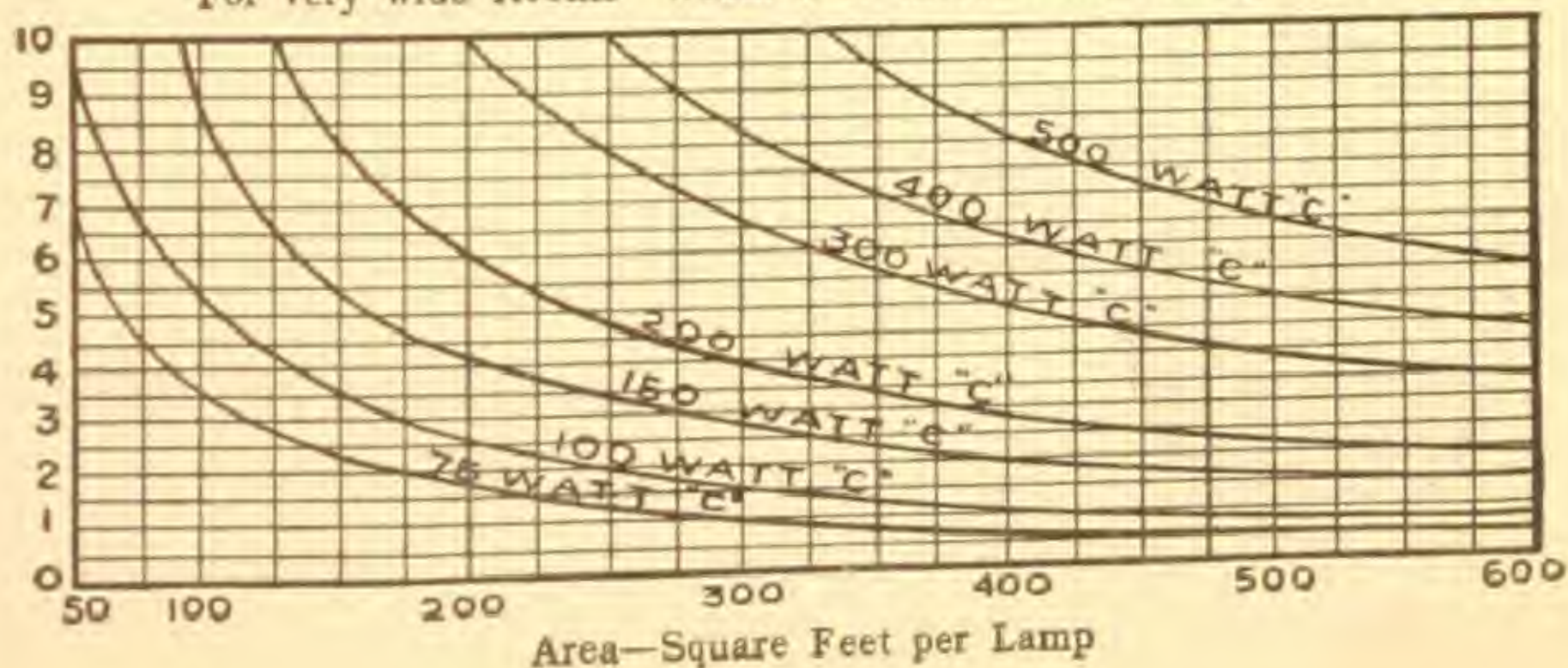
For Narrow Rooms—Width  $1\frac{1}{2}$  times Ceiling Height



For Medium Width Rooms—Width 3 times Ceiling Height

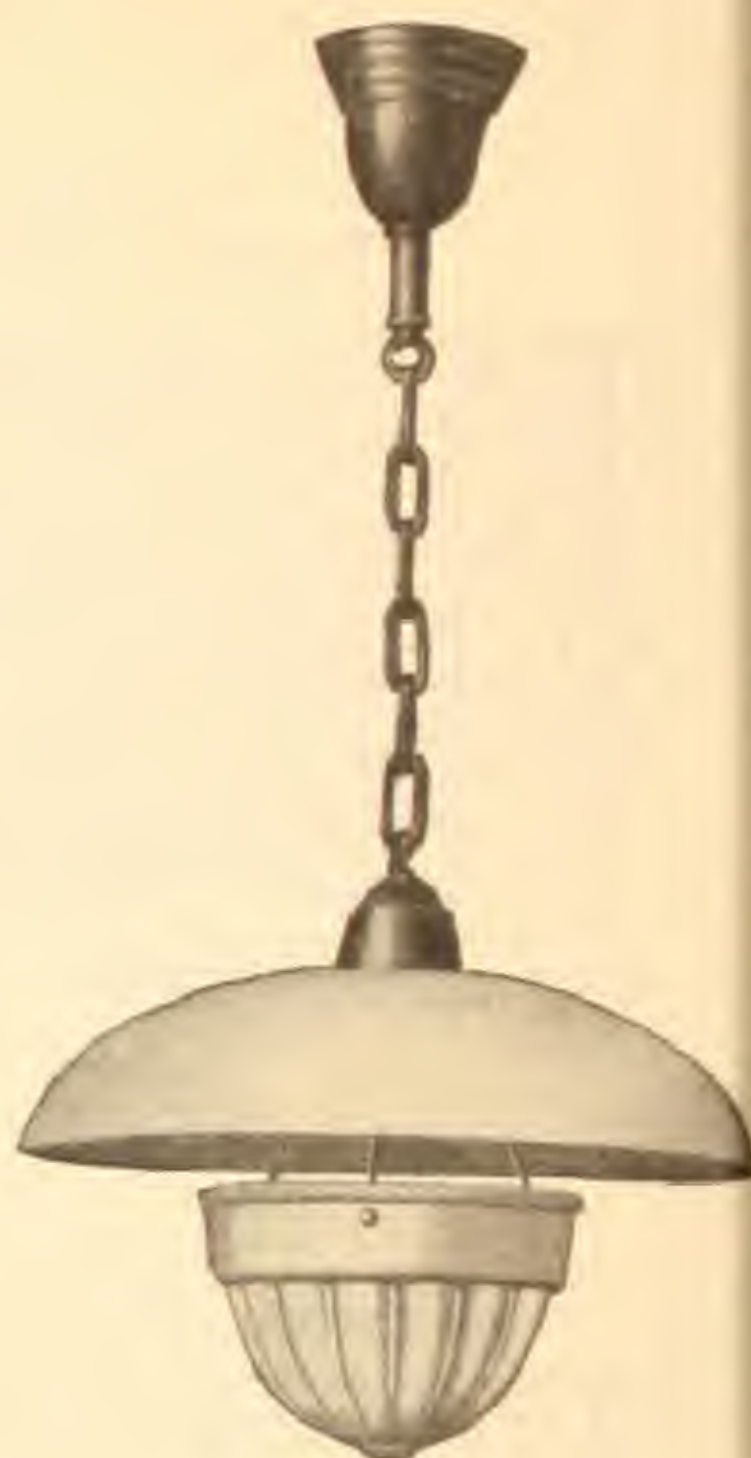


For very wide Rooms—Width 5 or more times Ceiling Height





## TWO PIECE LIGHTING UNITS

No. 1  
JeffersonliteNo. 2  
JeffersonliteNo. 1  
DominionliteNo. 2  
Dominionlite

## JEFFERSONLITE FIXTURES

Moonstone Glass

Trade No.	Mfrs. No.	Diam. Upper Shade Inches	Diam. Bowl Inches	Price Each
177408	1	11	8	\$10.00
177409	2	15 $\frac{1}{4}$	10	14.50

## DOMINIONLITE FIXTURES

Milk White Glass

177410	1	16	8	9.75
177411	2	20	10	12.50



# LIGHTING FIXTURES

## BOX LINE

Residential lighting fixtures packed individually in cartons except where shown; each carton labeled with photograph of fixture and all details.



No. 2000



No. 2004



No. 2006

No. 2000  
Finish: Flemish Gold

Trade No.	DIMENSIONS, INCHES	No. of Lights	No. in Carton	Price Each
205210	Length 36 Spread 14	3	1	\$18.00

No. 2004  
Finish: Empire Bronze

Trade No.	DIMENSIONS, INCHES	No. of Lights	No. in Carton	Price Each
205211	Length 36 Spread 14	3	1	\$18.00

No. 2006  
Finish: Empire Gilt

Trade No.	DIMENSIONS, INCHES	No. of Lights	No. in Carton	Price Each
205212	Length 36 Spread 12	3	1	\$18.00

No. 2001  
Glass: Amber; Finish: Flemish Gold



No. 2001

Trade No.	DIMENSIONS, INCHES	No. of Lights	No. in Carton	Price Each
205213	Length 36 Lantern 4 1/2 x 6 1/2	1	1	\$12.00



## LIGHTING FIXTURES

## BOX LINE



No. 2008



No. 2009



No. 2010

## No. 2008

Finish: Brush Brass and Black Plate

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. in Carton	Price Each
	Length	Spread			
205214	36	16	4	1	\$20.25

## No. 2009

Finish: Rich Gold and Black

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. in Carton	Price Each
	Length	Spread			
205215	36	13	4	1	\$19.50

## No. 2010

Finish: Flemish Brass

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. in Carton	Price Each
	Length	Spread			
205216	36	12	3	1	\$13.50

## No. 2011

Finish: Brush Brass and Black

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. in Carton	Price Each
	Length	Spread			
205217	36	12	2	3	\$6.45



No. 2011



# LIGHTING FIXTURES

## BOX LINE



No. 2020



No. 2021



No. 2019

### No. 2020

Finish: Butlers' Silver

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. in Carton	Price Each
205218	Length	Spread	5	1	\$43.50

Candles and sockets included.

### No. 2021

Finish: Rich Gold and Black

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. in Carton	Price Each
205219	Length	Spread	3	1	\$13.80

### No. 2019

Glass: Amber; Finish: Flemish Brass

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. of Carton	Price Each
205220	Length	Lantern	1	1	\$15.60

### No. 2013

Glass: C.R.I.; Finish: Dull Black

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. of Carton	Price Each
205221	Length	Lantern	1	2	\$6.30



No. 2013



## LIGHTING FIXTURES

## BOX LINE



No. 2014



No. 2015



No. 2016



No. 2017



No. 2018

## No. 2014

Finish: Butlers' Silver

Trade No.	Extension Inches	No. of Lights	No. in Carton	Price Each
205222	6 1/2	1	6	\$7.35

Candle and socket included.

## No. 2015

Finish: Butlers' Silver

Trade No.	DIMENSIONS, INCHES		No. of Lights	No. in Carton	Price Each
	Extension	Spread			
205223	5 1/4	8	2	3	\$12.45

Candles and socket included

## No. 2016

Finish: Flemish Gold

Trade No.	Extension Inches	No. of Lights	No. in Carton	Price Each
205224	6	1	6	\$2.70

## No. 2017

Finish: Brush Brass and Black Plate

Trade No.	Extension Inches	No. of Lights	No. in Carton	Price Each
205225	4	1	6	\$3.75

## No. 2018

Finish: Flemish Brass

Trade No.	Extension Inches	No. of Lights	No. in Carton	Price Each
205226	4	1	6	\$3.75



# GLASS SHADES



No. 5000



No. 8300



No. 8305



No. 8302



No. 984



No. 1002



No. 1004



No. 1006



No. 376



No. 404

## CRYSTAL PRESSED SHADES

Trade No.	Mfrs. No.	Price per Doz.	Trade No.	Mfrs. No.	Price per Doz.
177166	5000	\$2.00	177168	8305	\$2.00
177167	8300	2.00	177169	8302	2.60

In amber glass 25 per cent extra.

## MOONSTONE SHADES

No. 984		No. 1002		No. 1004		No. 1006	
Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.
177170	\$4.00	177172	\$9.00	177174	\$6.50	177176	\$8.00
Tinted Old Ivory							
177171	6.00	177173	13.90	177175	10.50	177177	12.50

## NITROGEN UNITS

With White Glass—Plain or Roughed

Mfrs. No.	Diam. Inches	Depth Inches	Fitter Inches	PRICE, PER DOZ.		Trade No.	Roughed
				Plain			
376	10	12	6	177178	\$33.00	177184	\$36.00
402	12	14	8	177179	36.00	177185	40.00
404	10	12	6	177180	24.00	177186	27.00
406	7	8	4	177181	10.00	177187	11.00
481 1/2	9 5/8	11 1/4	5	177182	20.00	177188	22.00
482 1/2	13 1/2	16 3/8	8	177183	54.00	177189	60.00



No. 481 1/2



## GLASS SHADES



No. 369



No. 410



No. 437



No. 440



No. 435



No. 442



No. 1027



No. 1033



No. 314



No. 315



No. 318



No. 386



No. 373



No. 986



No. 374

## PLAIN SHADES

Crystal or Milk White Glass

CRI			CRO		White RO	
Mfrs. No.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.
369	177118	\$3.00	177126	\$3.00	177134	\$3.80
410	177119	3.00	177127	3.00	177135	3.80
437	177120	2.00	177128	2.00	177136	2.60
440	177121	2.00	177129	2.00	177137	2.60
435	177122	2.00	177130	2.00	177138	2.60
442	177123	2.40	177131	2.40	177139	3.20
1027	177124	2.00	177132	2.00	177140	2.60
1033	177125	2.00	177133	2.00	177141	2.60

## MOULDED SHADES

Crystal or Milk White Glass

CRO			White RO	
Mfra. No.	Trade No.	Price per Doz.	Trade No.	Price per Doz.
314	177142	\$2.50	177149	
315	177143	3.50	177150	\$4.40
318	177144	3.00	177151	3.60
386	177145	3.00	177152	3.60
373	177146	3.00	177153	3.60
986	177147	2.80	177154	4.40
374	177148	7.50	177155	9.60



GLASS SHADES  
CRYSTAL CUT SHADES



No. 439  
C-90



No. 1027  
C-100



No. 440  
C-110



No. 441  
C-120



No. 1027  
C-130



No. 1027  
C-140



No. 1033  
C-150



No. 1045  
C-150

C-90		C-100		C-110		C-120		C-130		C-140		C-150	
Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.
177001	\$6.00	177006	\$6.50	177011	\$9.00	177016	\$9.00	177021	\$9.50	177026	\$8.50	177031	\$10.00
177002	6.00	177007	6.50	177012	9.00	177017	9.00	177022	9.50	177027	8.50	177032	10.00
177003	6.00	177008	6.50	177013	9.00	177018	9.00	177023	9.50	177028	8.50	177033	11.00
177004	6.00	177009	6.50	177014	9.00	177019	9.00	177024	9.50	177029	8.50	177034	10.00
177005	6.50	177010	7.00	177015	9.50	177020	9.50	177025	9.50	177030	8.80	177035	10.50
												177036	12.50

CRYSTAL ETCHED BALLS



Nos. 446 and 450  
E-7



Nos. 446 and 450  
E-15



Nos. 446 and 450  
E-1820

Trade No.	Mfrs. No.	Size Inches	Price per Doz.	Trade No.	Mfrs. No.	Size Inches	Price per Doz.
177037	446	6x3 1/4	\$11.00	177040	451	8x4	\$14.00
177038	449	7x3 1/4	12.00	177041	452	8x5	14.00
177039	450	8x3 1/4	14.00				

NOTE:—Orders should specify etching required.



GLASS SHADES  
CRYSTAL ETCHED SQUAT BALLSNos. 490 to 492  
E-7

Trade No.	Mfrs. No.	Size Inches
177051	490	6x3 $\frac{1}{4}$
177052	491	7x3 $\frac{1}{4}$

Nos. 490 to 492  
E-15

Price per Doz.
\$12.00
13.00

Nos. 490 to 492  
E-1820

Trade No.	Mfrs. No.	Size Inches	Price per Doz.
177053	492	8x3 $\frac{1}{4}$	\$15.00

## CRYSTAL CUT BALLS AND BOWLS

Nos. 446 and 451  
C-100Nos. 496 and 499  
C-110No. 492  
C-120No. 499  
C-130No. 579  
C-140Nos. 446 and 451  
C-150

C-100		C-110		C-120		C-130		C-140		C-150	
Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.
177054	\$9.00	177063	\$12.50	177072	\$12.50	177081	\$13.50	177090	\$12.00	177099	\$17.50
177055	11.00	177064	14.00	No. 449—Size 7x3 $\frac{1}{4}$ Inches		177082	15.00	177091	14.00	177100	25.00
177056	13.00	177065	18.00	177073	14.00	No. 451—Size 8x4 Inches		177092	16.00	177101	27.00
177057	15.00	177066	17.00	177074	18.00	No. 492—Size 8x3 $\frac{1}{4}$ Inches		177093	16.00	177102	29.00
177058	18.00	177067	21.00	177075	16.50	No. 499—Size 8x7 Inches		177094	20.00	177103	27.00
177059	27.00	177068	33.00	177076	22.00	No. 496—Size 10x8 Inches		177095	36.00	177104	40.00
177060	18.00	177069	21.00	177077	33.00	No. 579—Size 8 Inches		177096	20.00	177105	28.00
177061	27.00	177070	33.00	177078	21.00	No. 580—Size 10 Inches		177097	36.00	177106	40.00
177062	48.00	177071	54.00	177079	33.00	No. 584—Size 12 Inches		177098	54.00	177107	60.00
				177080	54.00	177089	60.00				



# MOONSTONE REFLECTORS

## PLAIN



No. 4026

## DIFFUSING TYPE

Trade No.	Mfrs. No.	Lamp Watts	DIMENSIONS, INCHES			Std. Pkg. Doz.	Price per Doz.
			Diam.	Depth	Fitter		
110128	4005	25	5 1/4	3 3/4	2 1/4	6	\$5.20
110129	4008	40	5 3/4	4 1/2	2 1/4	5	6.70
110130	4010	60	7 1/4	4 5/8	2 1/4	4	9.40
110131	4026	100	8 1/4	6	2 1/4	2	14.60
110132	4032	150	10 1/4	6 3/4	3 1/4	1	21.00
110133	4029	250	12	7 3/8	3 1/4	1/2	30.00



No. 4029

## DISTRIBUTING TYPE

Trade No.	Mfrs. No.	Lamp Watts	DIMENSIONS, INCHES			Std. Pkg. Doz.	Price per Doz.
			Diam.	Depth	Fitter		
110135	4020	40	7 1/4	3 1/4	2 1/4	5	\$6.70
110136	4024	60	9	3 3/4	2 1/4	3	9.40
110137	4038	100	11	4 1/4	2 1/4	1 1/2	14.60
110138	4028	150	11	5	3 1/4	1	21.00
110139	4039	400	15 1/4	7	3 1/4	1/2	48.00



No. 4024

## SANITARY TYPE

Trade No.	Mfrs. No.	Lamp Watts	DIMENSIONS, INCHES			Std. Pkg. Doz.	Price per Doz.
			Diam.	Depth	Fitter		
110140	4050	25	5	3 5/8	2 1/4	6	\$5.20
110141	4052	40	5 3/4	4 5/8	2 1/4	5	6.70
110142	4054	60	6 3/8	4 5/8	2 1/4	4	9.40
110143	4056	100	8	6 3/4	2 1/4	2	14.60
110144	4058	150	10 1/4	7 1/2	3 1/4	1	21.00
110145	4060	250	11	8 1/2	3 1/4	1/2	30.00



No. 4056

## FLAT SANITARY TYPE

Trade No.	Mfrs. No.	Lamp Watts	DIMENSIONS, INCHES			Std. Pkg. Doz.	Price per Doz.
			Diam.	Depth	Fitter		
110146	4051	40	7	3 1/4	2 1/4	5	\$6.70
110147	4053	60	8 1/4	3 3/4	2 1/4	3	9.40
110148	4057	100	10 1/2	4 5/8	2 1/4	1 1/2	14.60
110149	4059	150	11	5 1/2	3 1/4	1	21.00



## MOONSTONE REFLECTORS



No. 9050

## CANTALOUPE BALLS

Trade No.	Mfrs. No.	Lamp Watts	Diam. Inches	Fitter Inches	PRICE, PER DOZEN	
					Plain	Roughed Outside
110177	9050	40	6	3 1/4	\$7.00	\$7.70
110178	9052	60	8	4	9.20	10.00
110179	9054	100	10	5	20.00	22.00
110180	9056	150	12	6	30.00	33.00
110181	9058	500	14	9	48.00	52.80

In ordering, specify finish, whether plain or roughed outside.



No. 9070

## GRECIAN LANTERNS

Trade No.	Mfrs. No.	Lamps Watts	Diam. Inches	Fitter Inches	PRICE, PER DOZEN		
					Plain	Roughed Outside	Tinted
110182	9070	60	7	4	\$12.00	\$13.20	\$21.00
110183	9072	100	10	5	24.00	26.40	40.00
110184	9074	150	12	6	36.00	39.60	60.00
110185	9076	250	14	9	56.00	61.60	90.00
110186	9078	500	16	10	96.00	105.60	150.00

In ordering, specify finish, whether plain, roughed outside, old ivory, verde green, antique bronze, pink or blue.

Fixtures suitable for above balls and lanterns are shown on another page.



No. 9051

## CANTALOUPE GLOBES

Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Fitter Inches	Std. Pkg. Dot.	PRICE, PER DOZEN MOONSTONE			
						Plain	Roughed Outside	Tinted	CRI
110187	9051	5	5	2 1/4	3	\$5.00	\$5.50	\$7.70	\$4.50



No. 9080

## No. 9080 GRECIAN SHADES

Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Fitter Inches	Std. Pkg. Dot.	PRICE, PER DOZEN			
						CRI	Plain	Roughed	Tinted
110188	9080	4 1/2	4 7/8	2 1/4	4	\$4.00	\$5.00	\$5.50	\$7.70

In ordering, specify finish, whether plain, roughed outside, old ivory, verde green, antique bronze, pink or blue.



# GLASS SHADES



No. 391



No. 6014



No. 4070



No. 366 1/2



No. 370



No. 383

## NITROGEN UNITS

Moonstone Glass

Mfrs. No.	Size In.	Plain		Roughed	
		Trade No.	Price per Doz.	Trade No.	Price per Doz.
391	12x13x8	177201	\$44.00	177204	\$48.00
6014	12x8	177202	42.00	177205	46.20
6016	14x8 3/4	177203	66.00	177206	72.60

For 6014 and 6016 specify number of holes required.

Drilling holes, 12 cents each extra.

## SEMI-INDIRECT BOWLS

Moonstone Glass

Mfrs. No.	Diarn. In.	Depth In.	Plain		Roughed Outside	
			Trade No.	Price per Doz.	Trade No.	Price per Doz.
4070	10	5	177207	\$26.40	177211	\$29.00
4071	12	6	177208	42.00	177212	46.20
4072	14	7	177209	60.00	177213	66.00
4073	16	8	177210	90.00	177214	99.00

Milk White Glass

366 1/2	14	5 5/8	177215	39.00	177220	42.00
370	12	6 1/4	177216	22.80	177221	24.00
375	16	7 1/8	177217	48.00	177222	54.00
383	12	6 1/8	177218	22.80	177223	24.00
387	14	6 1/2	177219	30.00	177224	33.00

Drilling holes 12 cents each hole or \$3.60 per dozen bowls.

Bowls with 3 holes each.



## GLASS SHADES

## SEMI-INDIRECT BOWLS—MOONSTONE GLASS



No. 6020



No. 6021



No. 6022



Nos. 6024 and 6030

Mfrs. No.	Diam. Inches	Depth Inches	Plain		Roughed Outside	
			Trade No.	Price per Doz.	Trade No.	Price per Doz.
6020	14	4	177236	\$60.00	177241	\$66.00
6021	15½	4½	177237	96.00	177242	105.60
6022	15½	4½	177238	100.00	177243	110.00
6024	14	4½	177239	78.00	177244	85.80
6030	20	5¾	177240	216.00	177245	237.60

No charge for drilling. Specify number of holes required.

No charge



GLASS SHADES  
SEMI-INDIRECT BOWLS—MOONSTONE GLASS



Nos. 6025, 6035, 6036



No. 6052



Nos. 6055, 6057



Nos. 6061, 6062, 6063, 6064, 6065  
Plain

Roughed Outside	
Trade No.	Price, per Doz.
177267	\$85.80
177268	264.00
177269	792.00
177270	224.40
177271	237.60
177272	118.80
177273	39.60
177274	66.00
177275	96.80
177276	184.80
177277	211.20

Nos.	Diam.	Depth	Plain	
			Trade No.	Price, per Doz.
6025	14	4 1/2	177256	\$78.00
6035	20	7	177257	240.00
6036	25 1/2	10	177258	720.00
6052	18	7 1/2	177259	204.00
6055	20	7 3/4	177260	216.00
6057	16	6	177261	108.00
6061	12	4 1/2	177262	36.00
6062	14	5	177263	60.00
6063	16	6 1/2	177264	88.00
6064	18	6 3/4	177265	168.00
6065	20	7	177266	192.00

No charge for drilling. Specify number of holes required.



**GLASS SHADES**  
**MAPLE LEAF BOWLS**  
Milk White Glass



No. 377

Mfrs. No.	Diam. Inches	Depth Inches	Plain		Roughed Outside		Tinted	
			Trade No.	Price per Doz.	Trade No.	Price per Doz.	Trade No.	Price per Doz.
377	15½	8	177321	\$44.00	177322	\$48.00	177323	\$70.00

Tinted bowls are furnished in old ivory, faint green, pink or blue.

**PLAIN BOWLS**  
Crystal or Milk White Glass



Nos. 496, 497, 498 and 499



Nos. 578, 579, 580, 584, 588, 589 and 590  
Crystal R. O.

Mfrs. No.	Diam. Inches	Depth Inches	Fitter Inches	Crystal R. O.		White Glass R. O.	
				Trade No.	Price per Doz.	Trade No.	Price per Doz.
496	10	..	8	177324	\$14.00	177335	\$18.70
497	12	..	10	177325	21.00	177336	26.40
498	14	..	12	177326	28.00	177337	34.00
499	8	..	7	177327	11.00	177338	14.40
578	7	4	7	177328	10.00	177339	13.20
579	8	4	8	177329	13.00	177340	16.50
580	10	5	10	177330	14.00	177341	18.70
584	12	6	12	177331	20.00	177342	24.20
588	14	7	14	177332	30.00	177343	36.00
589	16	8	16	177333	56.00	177344	66.00
590	20	10	20	177334	120.00	177345	158.40



# GLASS SHADES

## PLAIN BOWLS

Crystal or Milk White Glass



Nos. 594, 595, 596, 598, 600 and 671



No. 597



Nos. 601 and 602



No. 6110

Mfrs. No.	Diameter Inches	Depth Inches	Fitter Inches	Crystal R. O.		White Glass R. O.	
				Trade No.	Price per Doz.	Trade No.	Price per Doz.
594	10	4 1/4	10	177378	\$14.00	177388	\$18.00
595	12	4 1/4	12	177379	18.00	177389	22.00
596	14	4 1/2	14	177380	26.00	177390	32.00
598	16	6	16	177381	42.00	177391	52.80
600	18	6 1/2	18	177382	72.00	177392	96.00
671	20	7	20	177383	96.00	177393	114.40
597	17	6 3/8	..	177384	66.00	177394	77.00
601	15	..	14	177385	42.00	177395	52.80
602	18	..	16	177386	72.00	177396	96.00
110	14	5 1/2	..	177387	24.00	177397	33.00



## FLOOR LAMPS



Shaft 602  
Shade 66x24



Shaft 603  
Shade 67x26

## SHAFTS

Trade No.	Mfrs. No.	Height Inches	Description	Price Each
203045	602	68	Made of birch, finished walnut or mahogany. Two chain pull sockets.	\$31.50
203046	603	68	Made of birch, finished walnut or mahogany. Two chain pull sockets.	33.00

## SHADES

Trade No.	Mfrs. No.	Diameter Inches	Description	Price Each
203047	66x24	24	Small panels of figured sand and rose silk. Large panels in sunburst effect. Lined with rose. Sand and rose 4-inch silk fringe. Four rose tassels.	\$57.50
203048	67x26	26	Large panels of figured grey silk. Small panels of plain rose silk shirred with sunburst effect at bottom of small panel. Six large tassels. Two rows of 5-inch rose fringe. Shade lined rose sateen.	58.00



# FLOOR LAMPS



Shaft 600  
Shade 58x28



Shaft 601  
Shade 59x24

## SHAFTS

Trade No.	Mfrs. No.	Height Inches	Description	Price Each
303059	600	68	Made of birch, finished mahogany or walnut, hand carved. Two chain pull sockets.	\$36.00
			Made in polychrome	44.00
303060	601	68	Made of birch, finished mahogany or walnut. Two chain pull sockets.	27.50
			Velour column, mahogany or walnut finish.	33.00

## SHADES

Trade No.	Mfrs. No.	Diameter Inches	Description	Price Each
303061	58x28	28	Blue figured black crepe, lined with rose sateen. Gold bullion fringe and eight gold bullion tassels.	\$54.00
303062	59x24	24	Alternate panels of blue velour, with gold metallic lace, lined sand silk. Eight blue silk tassels.	68.00



## FLOOR LAMPS

Shaft 6051  
Shade 2-0-20Shaft 605  
Shade 1-0-20

## SHAFTS

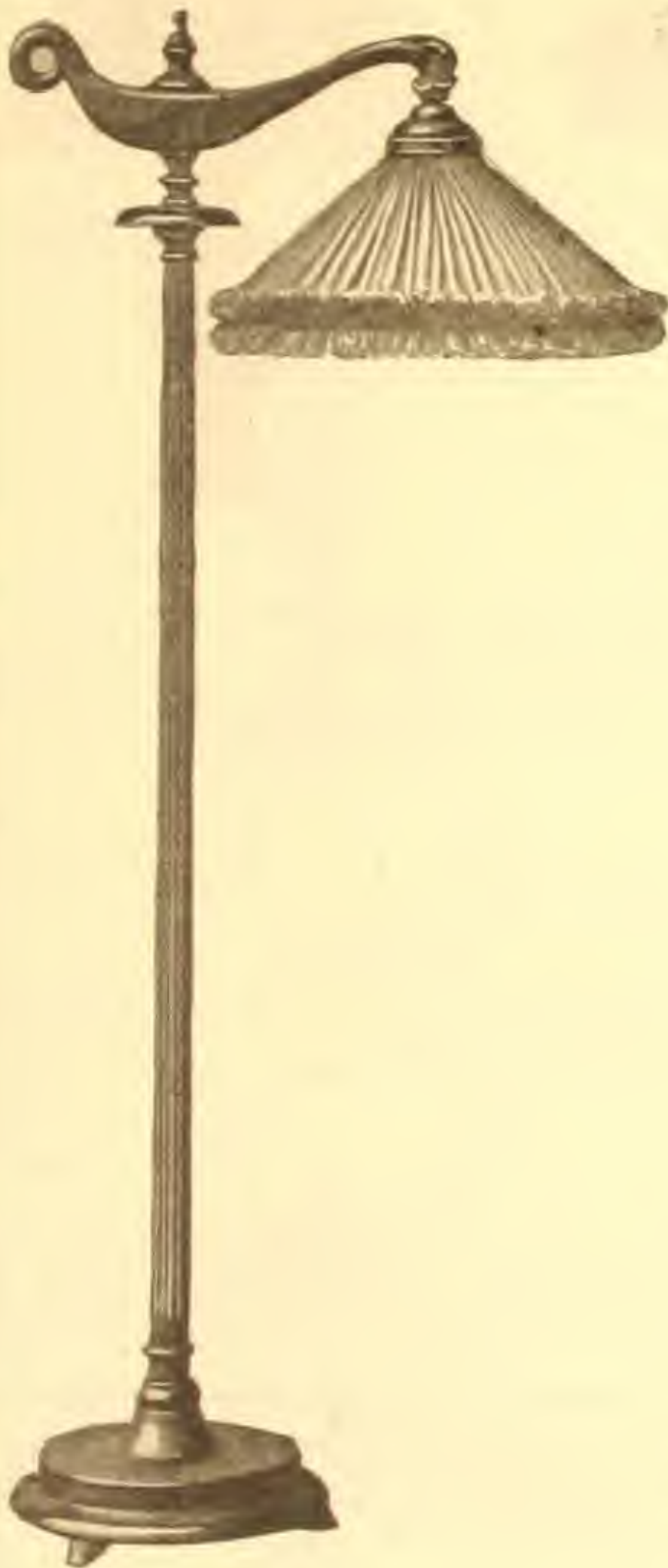
Trade No.	Mfr. No.	Height Inches	Description	Price Each
203073	6051	68	Made of birch, finished walnut or mahogany, or lacquered for decorations. Hand painted. Two chain pull sockets.	\$36.00
203074	605	68	Made of birch, finished walnut or mahogany, dull or polished. Two chain pull sockets.	23.00

## SHADES

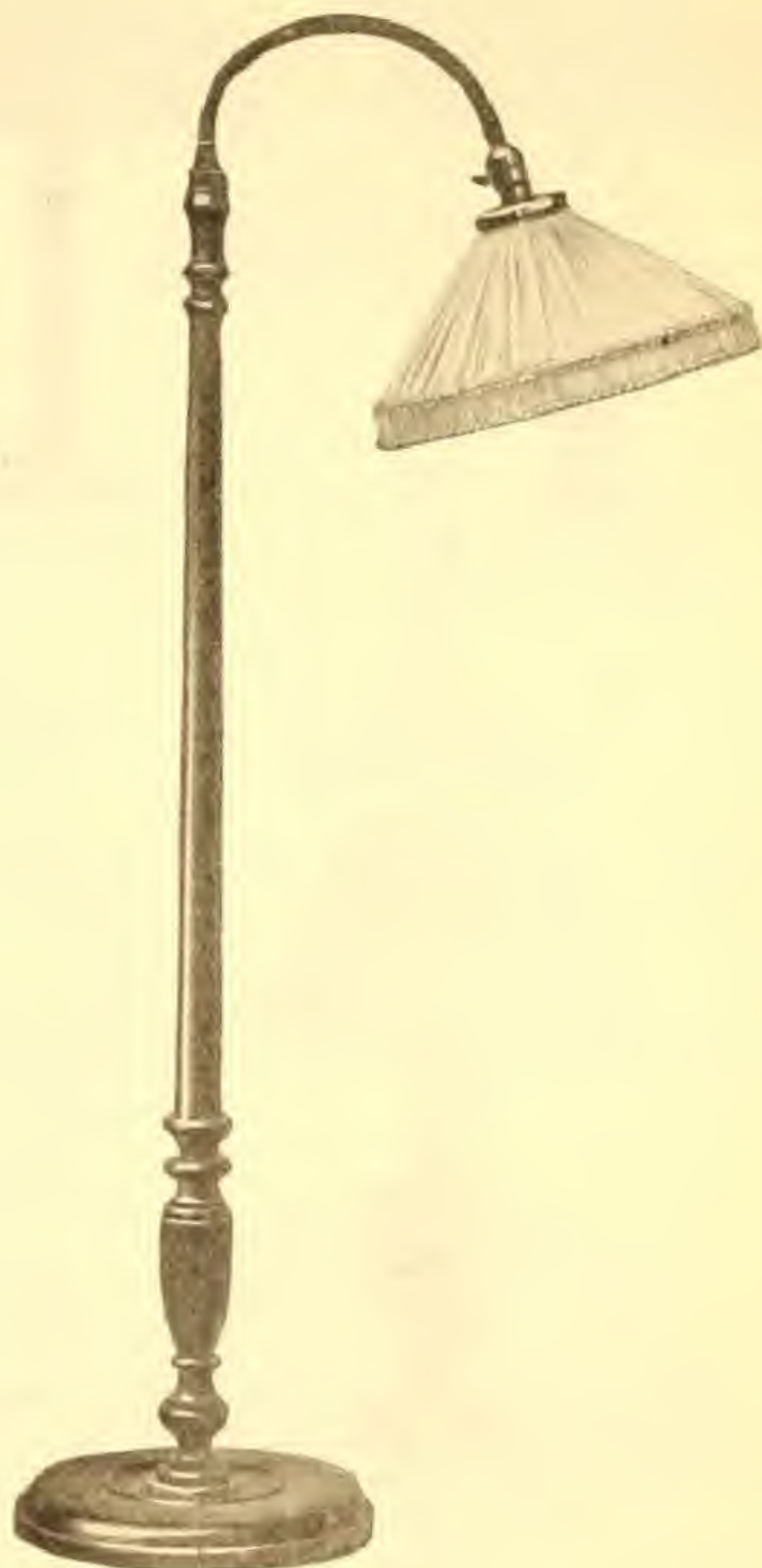
Trade No.	Mfr. No.	Diameter Inches	Description	Price Each
203075	2-0-20	20	Cover of plain gold cloth, alternating with heavy brocade silk panels, lined with rose silk. Gold fringe over 5-inch fringe flame.	\$117.50
203076	1-0-20	20	Cover of figured sand silk, with silver metallic facing band; lined with mulberry silk. One row heavy 6-inch fringe.	42.50



# FLOOR LAMPS



Shaft 607  
Shade 106x14



Shaft 608  
Shade 107x14

## SHAFTS

Trade No.	Mfrs. No.	Height Inches	Description	Price Each
03087	607	55	Made of birch, finished walnut or mahogany. Key socket.....	\$39.50
03088	608	55	Made of birch, finished mahogany. Key socket.....	20.00

## SHADES

Trade No.	Mfrs. No.	Diameter Inches	Description	Price Each
03089	106x14	14	Plain colors or figured silk.....	\$10.50
03090	107x14	14	Lined alternate panels of figured and plain silks, with chiffon cover.....	12.50



## PORTABLE LAMPS



Shaft No. 523  
Shade No. 53-0-20



Shaft No. 522  
Shade No. 52-0-20



Shaft No. 5441  
Shade No. P8-0-14

TABLE LAMPS WITH SILK SHADES  
SHAFTS

Made of solid American walnut, finished dull or in mahogany finish, dull or polished. Two pull chain sockets.

Trade No.	Mfrs. No.	Height Inches	Price Each
203101	523	30	\$30.00
203102	522	27	14.50

## SHADES

## No. 53-0-20

Cover of rose crepe de chine over rose saten. Metallic silvered banding; 4-inch silvered metallic fringe over 4-inch rose silk fringe.

Trade No.	Mfrs. No.	Diameter Inches	Price Each
203103	53-0-20	20	\$41.00

## No. 52-0-20

Cover of plain silk with lining of any shade alternate side panels covered with gold lace with other panels of shirred. One row 4-inch silk fringe.

Trade No.	Mfrs. No.	Diameter Inches	Price Each
203104	52-0-20	20	31.50

TABLE LAMPS WITH PARCHMENT SHADES  
SHAFTS

Made of birch, finished, mahogany or walnut. No. 5441 is hand painted, tulip effect; No. 544, dull or polished. One key socket.

Trade No.	Mfrs. No.	Height Inches	Price Each
203105	5441	18	\$11.50
203106	544	18	8.50

## SHADES

## No. P8-0-14

Parchment, oval shape. Hand painted, flower design on blue background.

Trade No.	Mfrs. No.	Diameter Inches	Price Each
203107	P8-0-14	14	\$16.00

## No. P7-0-12

Parchment, oval shape. Hand painted, grapes on grey background.

Trade No.	Mfrs. No.	Diameter Inches	Price Each
203108	P7-0-12	12	14.00

## RETH-FLEX DESK LAMPS

These lamps are adjustable and flexible. Finished in statuary Bronze, Pompeian Bronze, and Verde Green. Specify finish when ordering.

Trade No.	Mfrs. No.	Price Each
203109	3641	\$5.00



Shaft No. 544  
Shade No. P7-0-12



Reth-Flex Lamp



NORTHERN PORTABLE LAMPS



No. 3009

One light; height, 21 inches; spread, 15 inches. Finish, Byzantine. Amber glass. 8-ft. cord, chain pull socket, and separate plug.

Trade No.	Price Each
203134	\$15.50



No. 3008

Two lights; height, 20 inches; spread, 16 inches. Finish, bronze and green. Amber glass. 8-ft. cord, chain pull sockets, and separable plug.

Trade No.	Price Each
203135	\$18.00



No. 3010

One light; height, 21 inches; spread, 16 inches. Finish, Damascan. Amber glass. 8-ft. cord, chain pull socket, and separable plug.

Trade No.	Price Each
203136	\$15.00



No. 3012

Two lights; height, 22 inches; spread, 18 inches. Finish, rustic gold. Amber glass. 8-ft. cord, chain pull sockets, and separable plug.

Trade No.	Price Each
203137	\$24.00



## NORTHERN PORTABLE LAMPS



No. 3011

One light; height, 20 inches; spread, 17 inches. Finish, bronze and gold. Amber glass. 8-ft. cord, key socket, and separable plug.

Trade No.	Price Each
203120	\$9.00



No. 3007

One light; height, 16 inches; spread, 8 inches. Finish, ivory, rose and gold. Amber glass. 8-ft. cord, pull socket, and separable plug.

Trade No.	Price Each
203121	\$11.00



No. 8625

Finish, bronze or verde. 6-ft. cord and plug.

Trade No.	Price Each
203122	\$5.75



BEAVER LAMP

Finish, brush brass. 8-ft. cord and separable plug.

Trade No.	Price Each
203123	\$6.25



# FARIES ADJUSTABLE PORTABLES



No. 3188



No. 3174



No. 3267

## No. 3188

Height, 12 inches over all; base, 4½ inches. Combination portable and bracket. Has an adjustable joint, and shade swivels so that light can be thrown in any direction. Wired with 6 feet of silk cord, key socket, plug, and shade.

Trade No.	Description	Std. Pkg.	Price Each
43013	Brush brass	12	\$4.00

## No. 3174

Height, 15 inches. Has a 7-inch brass shade, frosted inside, brush brass outside. For 25 to 60 watt lamp. A practical as well as artistic portable for a bed, dresser or writing desk. Wired with 9 feet of silk cord, pull chain socket and plug.

43008	Brush brass	6	7.50
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## No. 3267

Height, 14 inches; spread, 11 inches over all. Clamp fits any thickness up to 1¾ inches. Wired with 6 feet of cord, socket, plug, and No. 27C shade.

43012	Brush brass	12	6.00
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## No. 3187

Height, 11 inches over all; base, 4½ inches. Combination portable and bracket. Shade, 6 inches in diameter. Wired with 6 feet of silk cord, key socket, plug, and shade.

43014	Brush brass	12	3.60
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## No. 152

Can be used either as a desk or bracket lamp.

43001	Brush brass	6	2.25
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Wired with 6 feet of silk cord, key socket, plug, and No. 981 shade, add \$3.10

## No. 152-A

Can be used either as a desk or bracket lamp.

43015	Brush brass	6	2.25
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Wired with 6 feet of silk cord, key socket, plug, and No. 981-A silk shade, add \$4.00



No. 3187



No. 152  
Used as a Desk Lamp



No. 152A  
Used as a Bracket Lamp



## FARIES ADJUSTABLE PORTABLES

WITH ADJUSTABLE METAL HOODS



No. 3193



No. 3184



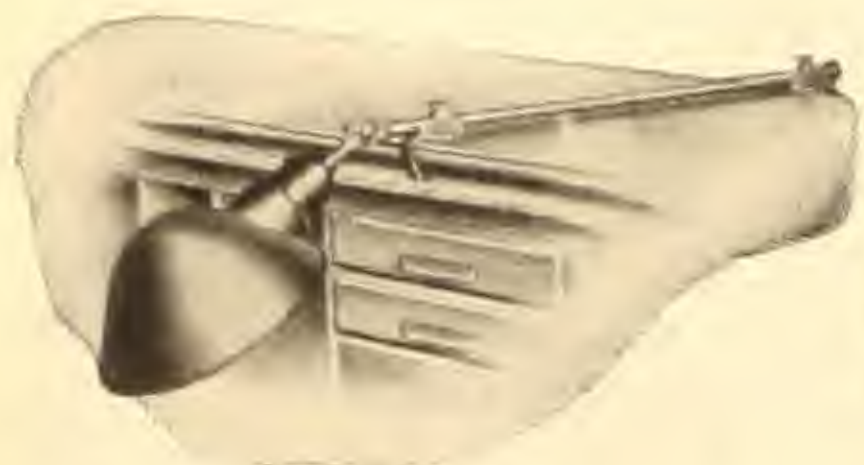
No. 885



No. 3182



No. 3067



No. 72



No. 97



No. 826

No. 3193

For flat top desk. Height, 15 inches; base, 5½ inches. Adjustable metal hood, frosted inside. Wired with 9 feet of silk cord, pull chain socket and plug.

Trade No.	Description	Std. Pkg.	Price Each
060370	Brush brass.....	12	\$8.25

No. 3184

Adjustable to any position. A practical and artistic portable for dresser or writing desk. Height to socket, 9 inches; base, 6 inches. Wired with 6 feet of silk cord, pull chain socket and plug.

060378	Brush brass.....	6	7.50
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No. 885

Fits any desk up to 15 inches. Adjustable metal hood, frosted inside. Wired with 9 feet of silk cord, socket and plug.

060384	Brush brass.....	6	7.50
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No. 3182

For roll top desk or piano. Base, 7 inches. Extends 10 inches. Swing portable with vertical adjustment and adjustable metal hood, frosted inside. Wired with 9 feet of silk cord, socket and plug.

060366	Brush brass.....	12	9.50
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No. 3067

For roll top desk or piano. Slate base, 7x7 inches. Extends 10 inches. Swing portable with vertical adjustment and adjustable metal hood, frosted inside. Wired with 9 feet of silk cord, socket and plug.

060368	Brush brass.....	12	9.50
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No. 72

Regular size fits any desk up to 15 inches. Should be used with a No. 027, shade, frosted, as illustrated.

060379	Brush brass.....	12	2.00
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No. 97

Desk clamp. Should be used with No. 027 shade as shown in illustration of No. 72.

060374	Brush brass.....	12	.65
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No. 826

Portable metal hood, frosted inside, can be attached to any portable or roll top desk bracket. Tapped ⅜, 7/16, and ½-inch brass. ⅜-inch furnished unless otherwise ordered.

060375	Brush brass.....	6	3.50
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Prices do not include shade, lamps, shadeholders, sockets or wiring, except where specified.



# FARIES ADJUSTABLE PORTABLES



No. 1012



No. 1792



No. 22

## No. 1012

For piano, office desk, library table, or any place where an adjustable portable lamp is used. Has large tubing and is adjustable to any position. Height, 18 inches, extends 24 inches.

Trade No.	Description	Std. Pkg.	Price Each
021721	Brush brass	12	\$2 50

Wired with 6 feet of silk cord, socket and plug, without shade, add \$1.50.

## No. 1792

Same as No. 1012 but with two lights. Large tubing adjustable to any position. Height, 20 inches. Extends 34 inches over all.

021722	Brush brass	6	5 60
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Wired with 9 feet of silk cord, socket and plug, without shades, add \$2.25.

## No. 22

This portable has an adjustable clip so that light can be thrown in any direction. Height, 20 to 26 inches.

021725	Brush brass	12	2 65
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Wired with 9 feet of silk cord, socket and plug, without shade, add \$1.50.

## No. 63

Height, 24 inches; arm, 13 inches.

42021	Brush brass	6	4 00
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Wired with 9 feet of silk cord, socket and plug, without shade, add \$1.50.

Bases of portables are covered with felt, and will not mar or scratch a desk.

Prices do not include shades, lamps, shade holders, sockets, or wiring.



No. 63



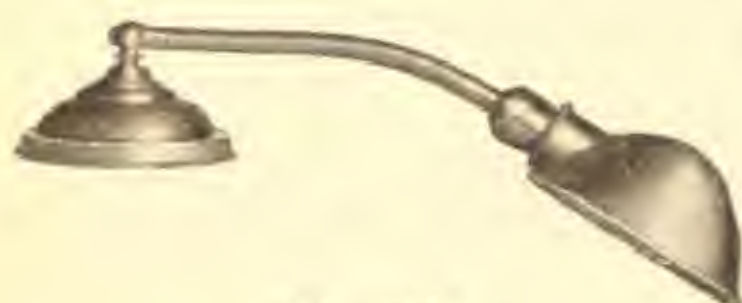
## FARIES FLEXIBLE PORTABLES AND ARMS



No. 1532

No. 153  
No. 1532

Same as No. 153, but with two lights. Height, 26 inches. Extends, any direction, 34 inches over all.



No. 1947

Trade No.	Description	Std. Pkg.	Price Each
41431	Brush brass Wired with 9 feet of silk cord, sockets and plug, without shades, add \$2.50.	6	\$5.00

## No. 153

Height, 26 inches. Extends any direction, 16 inches.			
078184	Brush brass	12	3.00
Wired with 9 feet of silk cord, socket and plug, without shade, add \$1.50.			

## No. 1947

Flexible portable with 9-inch flexible tube. Extends 20 inches over all.



No. 540

42924	Brush brass	12	3.00
Wired with 9 feet of silk cord, socket and plug, without shade, add \$1.50.			

## No. 540

Flexible arm for factory lighting.  $\frac{3}{8}$ -inch iron male thread each end.



No. 154

Trade No.	Finish	Length Inches	Std. Pkg.	Price Each
42921	Brush brass	12	100	\$1.65
42922	Brush brass	15	100	2.00
42923	Brush brass	18	100	2.45
Longer lengths, per foot				1.65

## No. 154

Flexible arm.  $\frac{1}{4}$ -inch iron male thread each end.

078186	Brush brass	9	100	1.10
078187	Brush brass	12	100	1.30
078188	Brush brass	15	100	1.55
078189	Brush brass	18	100	1.90
42926	Brush brass	24	100	2.55
Longer lengths, per foot				1.30

## No. 155

Flexible portable base. Height, 8 inches.



No. 155

Trade No.	Description	Std. Pkg.	Price Each
42932	Brush brass	12	\$1.70
Bases of portables are covered with felt and will not mar or scratch a desk.			
Prices do not include shades, lamps, shade holders, sockets or wiring.			



# FARIES FLOOR PORTABLES

## ADJUSTABLE TELESCOPING



No. 3186

No. 3185

No. 03080

### ADJUSTABLE, TELESCOPING, FOR RESIDENCE OR OFFICE

Nos. 3080, 03080 and 3185 portables are adjustable in height from 2½ to 5 feet. The arms are 11 inches over all. The No. 3186 is adjustable in height from 3 to 5 feet and the arm is 11 inches over all. The arms are adjustable to any angle. The shades will not pull off, but will swivel so that light can be thrown in any direction. No set screws to mar or scratch finish in adjusting portables. Made with heavy stems and 9-inch heavy iron base covered with brass spinning and felt on the bottom of bases.

No. 3080 is wired from bottom for attaching the floor plug. Nos. 03080, 3185 and 3186 are wired from top for attachment to chandelier or bracket.

Wired with 9 feet of silk cord, socket, plug and shade. No. 3185 is furnished with detachable ash tray. This ash tray can also be furnished on No. 3080.

Trade No.	Mfrs. No.	Style Socket	Finish	Std. Pkg.	Price Each
41139	3186	Pull	Brushed brass	6	\$12.00
42726	3080	Key	Brushed brass	12	9.50
41140	3185	Key	Brushed brass	12	10.50
42728	03080	Key	Brushed brass	12	9.50



## FARIES VERDELITE PORTABLES



No. 3262



No. 3244



No. 3245



No. 3249



No. 3260

No. 3249

Swing portable, vertical adjustment with adjustable and detachable green glass shade. For 25 to 75-watt lamps. Extends 10 inches.

Trade No.	Description	Std. Pkg.	Price Each
42749	Brush brass	6	\$12.00
42761	Statuary bronze	6	13.00

No. 3260

Fancy cast swing portable, vertical adjustment, with adjustable and detachable green glass shade. For 25 to 75-watt lamps. Extends 10 inches.

Trade No.	Description	Std. Pkg.	Price Each
42757	Brush brass with black relief	6	\$11.50
42762	Statuary bronze with green relief	6	12.50

No. 3262

Fancy cast metal base with adjustable and detachable green glass shade. Height, 16½ inches to center of shade. For 25 to 75-watt lamps.

Trade No.	Description	Std. Pkg.	Price Each
42758	Brush brass with black relief	6	\$11.50
42763	Statuary bronze with green relief	6	12.50

No. 3244

No. 3244 with adjustable and detachable green glass shade. Height 16½ inches to center of shade. For 25 to 75-watt lamps.

Trade No.	Description	Std. Pkg.	Price Each
42752	Brush brass	6	\$12.50
42759	Statuary bronze	6	13.50

No. 3245

No. 3245 with adjustable and detachable green glass shades. Height, 16½ inches to center of shade. For 25 to 75-watt lamps.

Trade No.	Description	Std. Pkg.	Price Each
42751	Brush brass	6	\$18.50
42760	Statuary bronze	6	19.50

All the above portables are furnished wired with nine feet of silk cord, pull chain sockets and plug.

Bases are covered with felt and will not mar or scratch table, desk or piano.



# FARIES VERDELITE PORTABLES



No. 3248



No. 1842



No. 3243

No. 1842

A practical bracket with adjustable and detachable green glass shade. Fits any desk up to 15 inches. For 25 to 75-watt lamps. Wired with nine feet of silk cord, pull socket and plug.

Trade No.	Description	Std. Pkg.	Price Each
87457	Brush brass	6	\$8.25
87458	Statuary bronze	6	9.25

No. 3243

Swing portable, vertical adjustment with adjustable and detachable green glass shade. For 25 to 75-watt lamps. Extends 10 inches. Wired with nine feet of silk cord, pull chain socket and plug.

Trade No.	Description	Std. Pkg.	Price Each
42746	Brush brass	6	\$9.50
87459	Statuary bronze	6	10.50

No. 3248

No. 3248 with adjustable and detachable green glass shade. Height, 15 inches to center of shade. For 25 to 75-watt lamps. Wired with nine feet of silk cord, pull chain socket and plug.

Trade No.	Description	Std. Pkg.	Price Each
42750	Brush brass	6	\$11.00
87460	Statuary bronze	6	12.00

No. 3254

No. 3254 with adjustable and detachable green glass shades. Height, 18 inches to center of shades. This is a stand lamp and must be screwed down. For 25 to 75-watt lamps. Wired with fixture wire and pull chain sockets.

Trade No.	Description	Std. Pkg.	Price Each
101710	Brush brass	6	\$18.00
87461	Statuary bronze	6	19.00

No. 3246

Fancy cast brass portable with adjustable and detachable green glass shade. Height, 15½ inches to center of shade. For 25 to 75-watt lamps. Wired with nine feet of silk cord, pull chain socket and plug.

Trade No.	Description	Std. Pkg.	Price Each
42754	Brush brass with black relief	6	\$18.50
87462	Statuary bronze with green relief	6	19.50

No. 3247

Fancy cast brass portable with adjustable and detachable green glass shades. Same as No. 3246 but with two lights. Height, 15½ inches to center of shades. For 25 to 75-watt lamps. Wired with nine feet of silk cord, pull socket and plug.

Trade No.	Description	Std. Pkg.	Price Each
42753	Brush brass with black relief	6	\$24.00
87463	Statuary bronze with green relief	6	26.00

Bases are covered with felt and will not mar or scratch table, desk or piano.



No. 3254



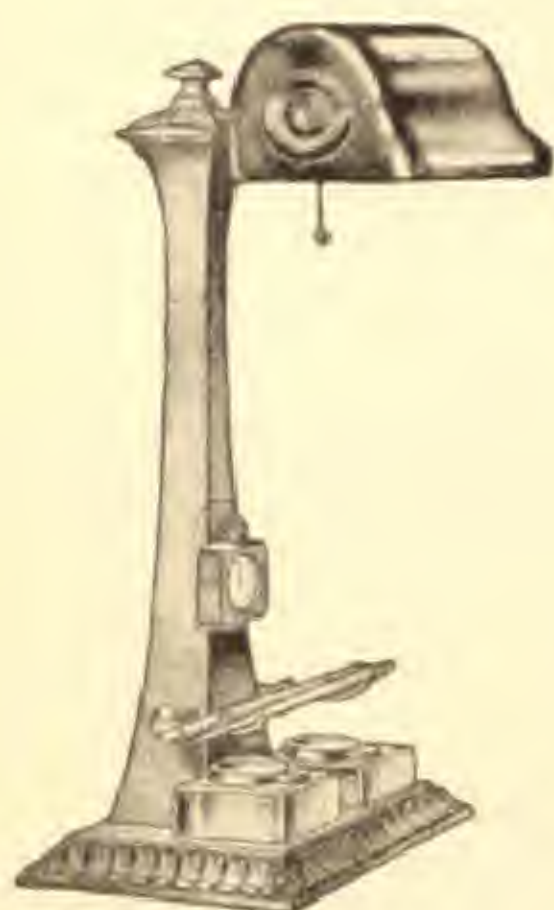
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## FARIES VERDELITE PORTABLES



No. 3255



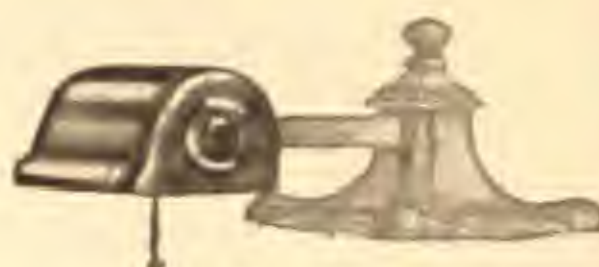
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No. 3256



No. 3251



No. 3250

## No. 3251

Fancy cast portable with adjustable and detachable green glass shade. For 25 to 75-watt lamps. Extends 10 inches.

Trade No.	Description	Std. Pkg.	Price Each
101708	Brush brass with black relief	6	\$15 00
101709	Statuary bronze with green relief	6	16 00

## No. 3250

Fancy cast portable with adjustable and detachable green glass shade. For 25- to 75-watt lamps. Extends nine inches.

Trade No.	Description	Std. Pkg.	Price Each
101705	Brush brass with black relief	6	\$15 00
101706	Statuary bronze with green relief	6	16 00

## No. 3255

No. 3255 with adjustable and detachable green glass shade. Furnished with pen racks and two ink stands with metal tops which open to the right or left. For 25- or 75-watt lamps. Height, 16½ inches to center of shade.

Trade No.	Description	Std. Pkg.	Price Each
101701	Brush brass with black relief	6	\$18 00
101713	Statuary bronze with green relief	6	19 00

## No. 3255-A

No. 3255-A with adjustable and detachable green shade. Furnished with pen racks and two ink stands with metal tops which open to the right or left, and watch which will keep good time. For 25- to 75-watt lamps. Height, 16½ inches to center of shade.

Trade No.	Description	Std. Pkg.	Price Each
101712	Brush brass with black relief	6	\$21 00
101714	Statuary bronze with green relief	6	22 00

## No. 3256

No. 3256 with adjustable and detachable green glass shades. Furnished with pen racks and four ink stands with metal tops which open to the right or left. For 25- to 75-watt lamps. Height, 16½ inches to center of shades.

Trade No.	Description	Std. Pkg.	Price Each
101703	Brush brass with black relief	6	\$26 00
101715	Statuary bronze with green relief	6	27 00

All the above portables are furnished wired with 9 feet of silk cord, pull chain sockets and plug.

Bases are covered with felt and will not mar or scratch table, desk or piano.



# FARIES ADJUSTABLE BRACKETS

Patented



Nos. 1062-A and 1062

## No. 1062-A

Adjustable to any position. Especially adapted for office or residence. Concealed wiring. Large tubing. Extends 15 inches. Crowfoot and 4½x3-inch canopy.

Trade No.	Description	Std. Pkg.	Price Each
43096	Brush brass.....	12	\$2.40

## No. 1062

Adjustable to any position. For office or residence. Concealed wiring. Large tubing. Extends 23 inches. Crowfoot and 4½x3-inch canopy.

43099	Brush brass.....	12	2.40
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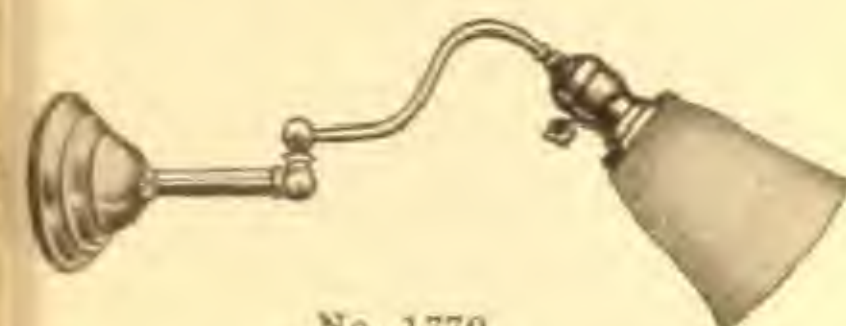


No. 16-A

## No. 16

Bed bracket. Adjustable to any position. Fits any iron or brass bed post or rail from ¾ to 1-inch in diameter.

43097	Brush brass.....	12	1.60
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No. 1770

## No. 1770

Especially adapted for residence, office or bank work. One swing. Extends 12 inches. Canopy, 4½ inches.

43084	Brush brass.....	12	2.40
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No. 539

## No. 539

Especially adapted for residence, office or bank work. Square swing bracket. Extends 12 inches.

43086	Brush brass.....	6	4.80
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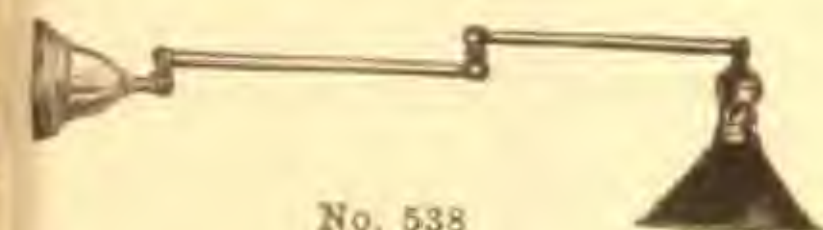


No. 537

## No. 537

Especially adapted for residence, office or bank work. One swing. Extends 15 inches. Canopy, 4½ inches.

027152	Brush brass.....	12	2.40
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No. 538

## No. 538

Especially adapted for residence, office or bank work. Same as No. 537 but is two-swing. Extends 27 inches. Canopy, 4½ inches.

027151	Brush brass.....	6	4.40
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No. 4

## No. 4

Adjustable to any position, for office, store, factory or residence. Furnished with approved insulator. Tubing, ½-inch. Length, 40-inch, with hinged joint.

038859	Brush brass....	12	2.60
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## No. 5

Adjustable to any position. Especially adapted for office, factory, store, doctor or dentist. Tubing, ½-inch. Length, 5 feet. Furnished with approved insulator.

43098	Brush brass....	6	3.80
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Prices do not include shades, lamps, shade holders, sockets or wiring.

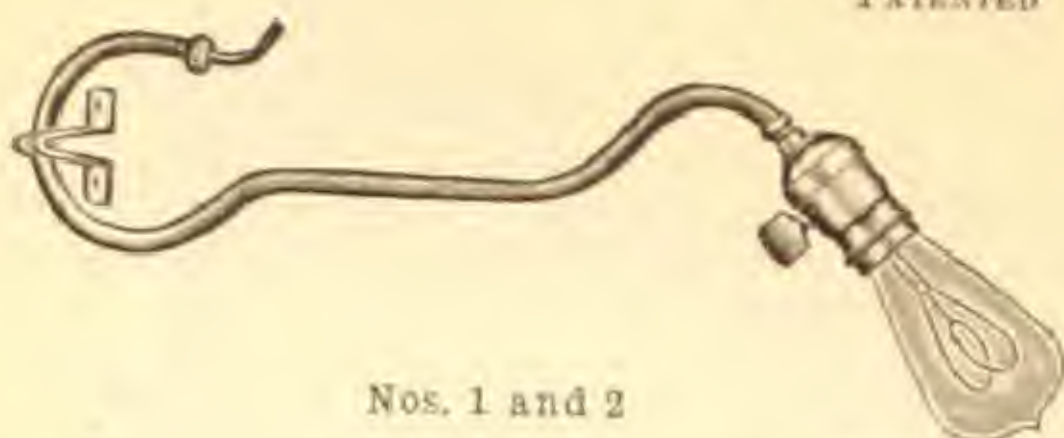


No. 5



## FARIES ADJUSTABLE BRACKETS

PATENTED



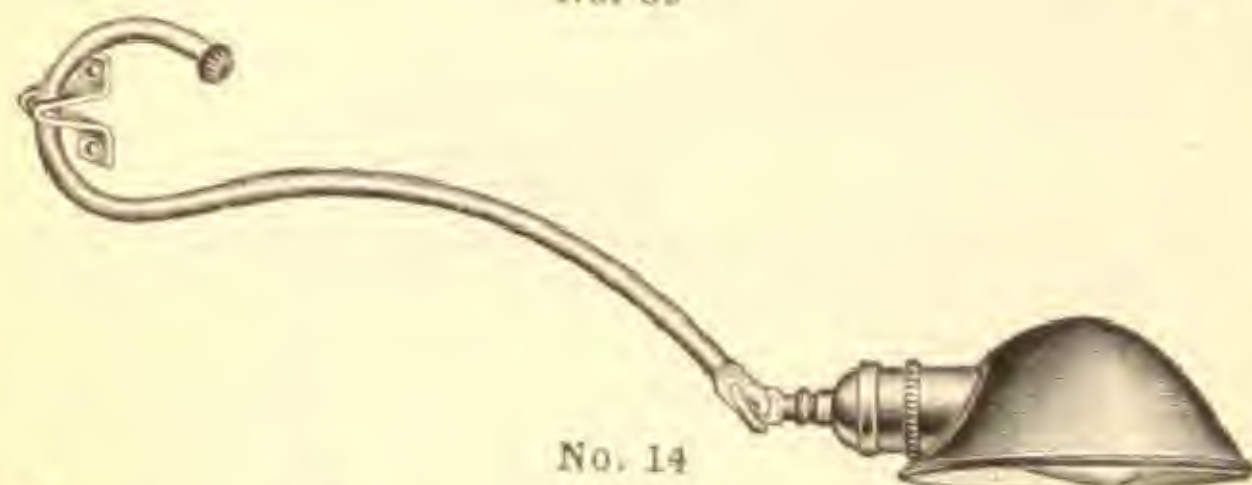
Nos. 1 and 2



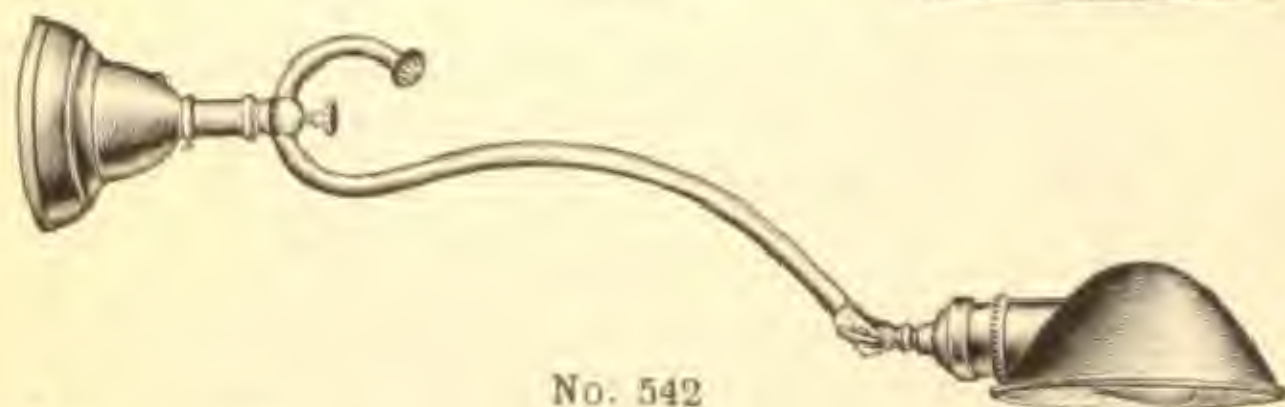
No. 3



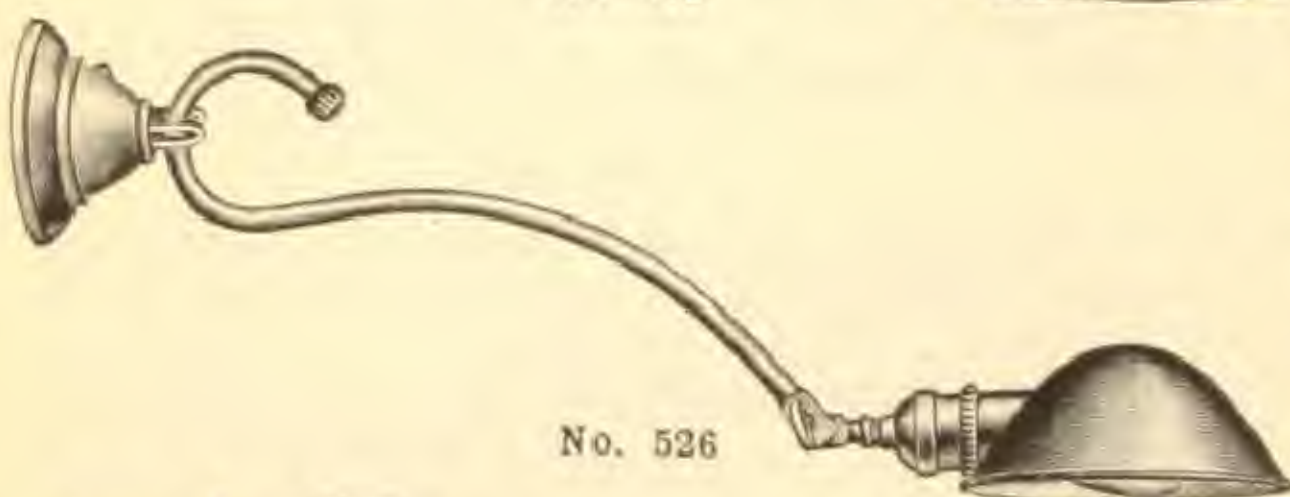
No. 89



No. 14



No. 542



No. 526



No. 15



No. 20

These brackets are all adjustable to any position, and especially adapted for office, store, factory or residence. Furnished with approved insulator.

## No. 1

Tubing,  $\frac{3}{8}$ -inch. Length, 16 in.

Trade No.	Description	Std. Pkg.	Price Each
038857	Brush brass	12	\$1.00

## No. 2

Tubing,  $\frac{3}{8}$ -inch. Length, 24 in.

038861	Brush brass	12	1.10
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## No. 3

Tubing,  $\frac{3}{8}$ -inch. Length, 24 in. With hinged joint.

038863	Brush brass	12	2.00
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## No. 89

Tubing,  $\frac{3}{8}$ -inch. Length, 24 in. With hinged joint and swivel.

038865	Brush brass	12	2.75
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## No. 14

Tubing,  $\frac{3}{8}$ -inch. Length, 20 in. over all. With hinge joint.

038847	Brush brass	12	1.75
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## No. 542

Tubing,  $\frac{3}{8}$ -inch. Length, 24 in. over all. With hinge joint and canopy.

42765	Brush brass	12	2.65
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## No. 526

Tubing,  $\frac{3}{8}$ -inch. Length, 22 in. With canopy for use with insulating joint.

42767	Brush brass	12	2.30
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## No. 15

Tubing,  $\frac{3}{8}$ -inch. Length, 31 in. 038853 Brush brass 6 5.00

No. 15 has wall bracket which swings horizontally only in addition to outer arm, which is adjustable to any position.

## No. 20

Length, 50 inches. No. 20 is practically the same as No. 15, only that it is longer and larger in proportion.

038849	Brush brass	6	7.00
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Prices do not include shades, lamps, shade holders, sockets or wiring.



Standard  
Trade  
No. 14  
7/4



Standard  
Trade  
No. 14  
7/4



Standard  
Trade  
No. 14  
7/4

The shade  
lamp bases are  
mounting also  
All ports  
key sockets  
For other



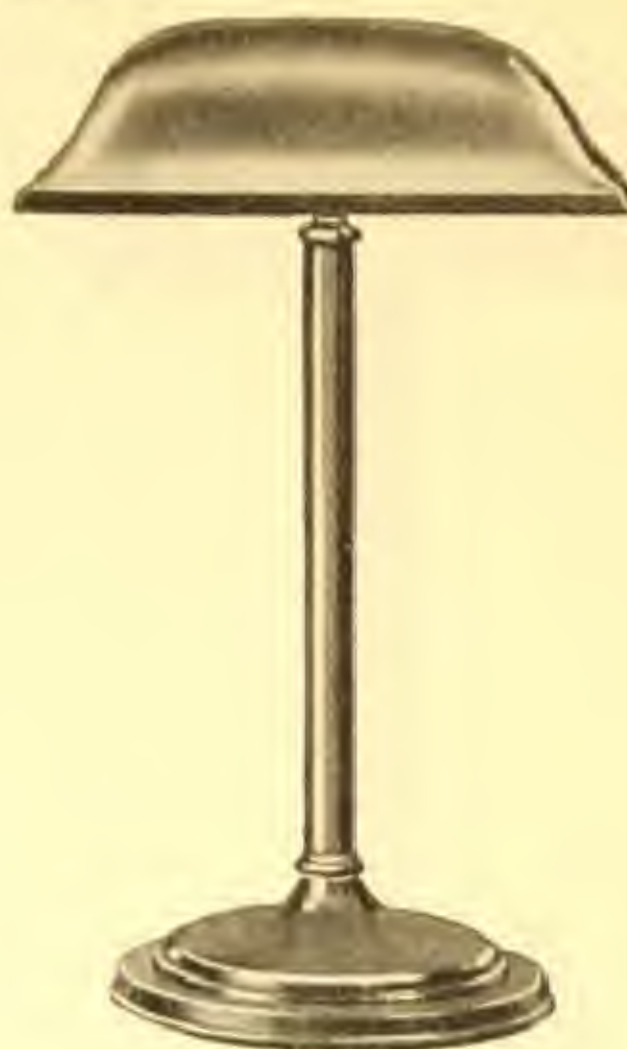
REX-O-LUX PORTABLES



No. 100

Standard Finish, Statuary Bronze

Trade No.	Diam. Base In.	Extension, Center of Base to Front of Reflector, In.	Ship Wt. Lbs.	Price Each
42398	7 $\frac{1}{4}$	11	5 $\frac{1}{8}$	\$11.00



No. 101

Standard Finish, Statuary Bronze

Trade No.	Diam. Base In.	Height Over All Inches	Ship Wt. Lbs.	Price Each
42399	7 $\frac{1}{4}$	15 $\frac{3}{4}$	5	\$12.00



No. 103

Standard Finish, Statuary Bronze

Trade No.	Diam. Base In.	Extension, Center of Base to Front of Reflector, In.	Ship Wt. Lbs.	Price Each
42400	6 $\frac{1}{4}$	11	5 $\frac{1}{2}$	\$13.50

Base is of cast metal.



No. 111

Standard Finish, Statuary Bronze

Trade No.	Diam. Base In.	Height Over All Inches	Ship Wt. Lbs.	Price Each
42401	7 $\frac{1}{4}$	16	6 $\frac{1}{2}$	\$17.00



No. 101

Showing Reflector Turned Up

The shades of the different designs are adjustable to change the angle of light rays. The lamp bases are not covered, but on each portable there are four specially made felt buttons, insuring absolute protection against scratching of furniture.

All portables are equipped with 6 feet of mercerized silk cord, swivel attachment plugs and key sockets.

For other than standard finishes, a minimum additional charge of 10 per cent is made.



## REX-O-LUX PORTABLES



No. 102

Standard Finish, Statuary Bronze

Trade No.	Diam. Base Inches	Height Over All Inches	Ship. Wt. Lbs.	Price Each
42402	6 $\frac{1}{4}$	15 $\frac{3}{4}$	5 $\frac{3}{4}$	\$13.50

The standard is made of square tubing.



No. 112

Standard Finish, Statuary Bronze

Trade No.	Diam. Base Inches	Height Over All Inches	Ship. Wt. Lbs.	Price Each
42403	6 $\frac{1}{4}$	16	7	\$20.50

The standard is made of square tubing.



No. 104

Standard Finish, Patina Bronze

Trade No.	Diam. Base Inches	Height Over All Inches	Ship. Wt. Lbs.	Price Each
42404	6 $\frac{1}{4}$	16 $\frac{1}{2}$	7 $\frac{1}{8}$	\$15.50

The shades of the different designs are adjustable to change the angle of light rays. The lamp bases are not covered, but on each portable there are four specially made felt buttons, insuring absolute protection against scratching of furniture.

All portables are equipped with 6 feet of mercerized silk cord, swivel attachment plugs and key sockets.

The base on all the above portables is of cast metal.

For other than standard finishes, a minimum additional charge of 10 per cent is made.



No. 113

Standard Finish, Patina Bronze

Trade No.	Diam. Base Inches	Height Over All Inches	Ship. Wt. Lbs.	Price Each
42405	6 $\frac{1}{4}$	16 $\frac{1}{4}$	8 $\frac{1}{2}$	\$23.50

Stand  
Trade No.  
12408  
Base is o  
The sha  
lamp bases at  
insuring absolu  
All porta  
key sockets.  
The base  
For other



REX-O-LUX PORTABLES



No. 105

Standard Finish, Patina Bronze

Trade No.	Size Base Inches	Height Over All Inches	Ship. Wt. Lbs.	Price Each
42406	7 $\frac{1}{2}$ x5 $\frac{1}{2}$	16 $\frac{1}{2}$	7 $\frac{1}{8}$	\$18.00

Base is of cast metal.



No. 106

Standard Finish, Patina Bronze

Trade No.	Size Base Inches	Height Over All Inches	Ship. Wt. Lbs.	Price Each
42407	7 $\frac{1}{2}$ x7 $\frac{1}{2}$	16 $\frac{1}{2}$	7 $\frac{1}{4}$	\$20.00

Base is of cast metal.



No. 107

Standard Finish, Patina Bronze

Trade No.	Size Base Inches	Height Over All Inches	Ship. Wt. Lbs.	Price Each
42408	9x7 $\frac{3}{8}$	15 $\frac{3}{4}$	9 $\frac{1}{4}$	\$24.00

Base is of cast metal.



No. 108

Standard Finish, Patina Bronze

Trade No.	Size Base Inches	Extension, Front of Base to Front of Shade, In.	Ship. Wt. Lbs.	Price Each
42409	9 $\frac{1}{2}$ x4 $\frac{1}{2}$	6 $\frac{1}{4}$	5 $\frac{1}{2}$	\$16.00

The shades of the different designs are adjustable to change the angle of light rays. The lamp bases are not covered, but on each portable there are four specially made felt buttons, insuring absolute protection against scratching of furniture.

All portables are equipped with 6 feet of mercerized silk cord, swivel attachment plugs and key sockets.

The base on all the above portables is of cast metal.

For other than standard finishes, a minimum additional charge of 10 per cent is made.



## REX-O-LUX PORTABLES



No. 109



No. 110

## Standard Finish, Patina Bronze

Trade No.	Diam. Base Inches	HEIGHT OVER ALL, INCHES		Ship. Wt. Lbs.	Price Each
		Max.	Min.		
42410	8½	55	34¼	7	\$19.00

## Standard Finish, Statuary Bronze

Trade No.	Diam. Base Inches	HEIGHT OVER ALL, INCHES		Ship. Wt. Lbs.	Price Each
		Max.	Min.		
42411	7¼	55	34	7	\$18.00

The shades of the different designs are adjustable to change the angle of light rays. The lamp bases are not covered, but on each portable there are four specially made felt buttons, insuring absolute protection against scratching of furniture.

Portables are equipped with 6 feet of mercerized silk cord, swivel attachment plugs and key sockets.

For other than standard finishes, a minimum additional charge of 10 per cent is made.



"WHITE" ADJUSTABLE FIXTURES



Style 6P

DESK PORTABLES

Trade No.	Style 6P	Price Each
046801		\$4.82
Standard finishes: Oxidized copper, old brass, or nickel.		

Style 7P

Trade No.	HEIGHT, INCHES		Price Each
	Closed	With Arm Extended	
046802	15	24	\$5.20
Standard finishes: Old brass, oxidized copper or nickel.			

Style 8P

Trade No.	Style 8P	Price Each
046803		\$2.93
Standard finishes: Old brass, oxidized copper or nickel.		

FLOOR PORTABLES

Wires freely through upright, without interfering with the telescoping adjustment. Height adjustable from 3 to 6 feet.

Trade No.	Description	Price Each
41294	Without wiring or socket	\$6.46
41295	Wired complete	on application

Style 9P

Same as Style 10P, but with skeleton base.

Style 10P	Trade No.	Description	Price Each
	046804	Without wiring or socket	\$4.89
	41296	Wired complete	on application

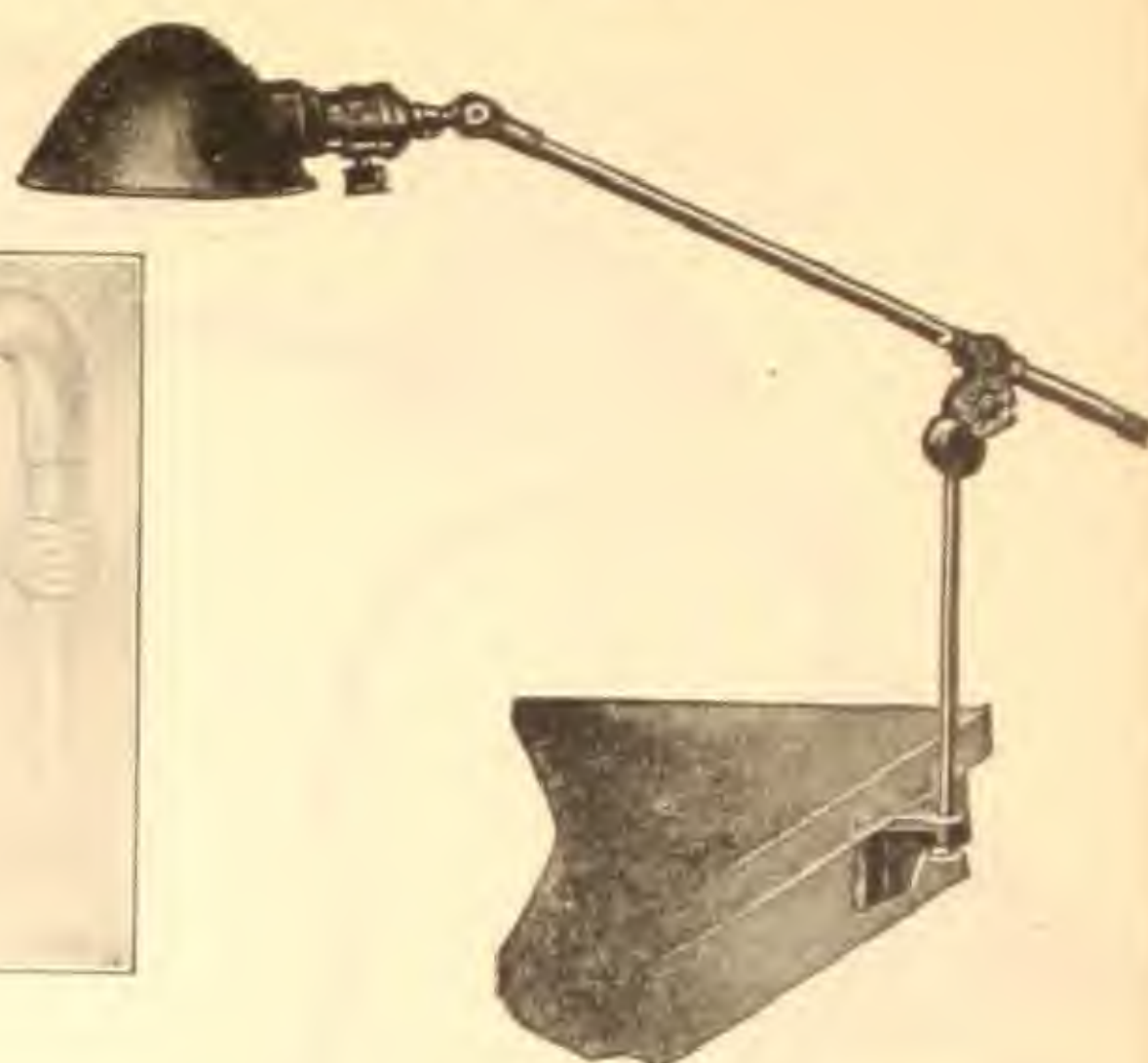
Standard finishes: Old brass, oxidized copper or nickel.  
Prices do not include sockets, shades, lamps or wiring.



## WHITE ADJUSTABLE FIXTURES



Bed Fixture—Type BF



Style 5M

## TYPE BF

The White Adjustable Bedstead Reading Lamps enable one to read in bed with comfort and without injuring the eyes.

## Style 1BF

Trade No.	Description	Price Each
041867	Fixture only; made in four sizes for round bars from $\frac{5}{8}$ to $2\frac{1}{4}$ -inch diameter.....	\$2.09

## Style 2BF

41321	Fixture only, for $\frac{1}{2}$ to 2-inch round or square bars....	3.34
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Standard finishes: Old brass or polished brass.

In ordering, specify size of bar wanted.

## TYPE M

These are designed especially to attach to stenographers' desks, or flat-top desks or tables.

Styles 5M and 6M are attached by wood screws. Styles 7M and 8M are attached by an adjustable clamp and are easily removable.

Styles 6M and 8M have telescoping lamp arms.

Trade No.	Style No.	Price Each
043997	5M	\$3.47
41322	6M	4.12
41323	7M	3.90
41324	8M	4.54

Standard finishes: Old brass, oxidized copper, or nickel.

## STYLE 1P

041868	Fixture only .....	6.15
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Standard finishes: Old brass, oxidized copper or nickel.

## STYLE 5P

041869	Fixture only .....	4.61
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Standard finishes: Old brass, oxidized copper or nickel.

Prices do not include sockets, shades, lamps or wiring.



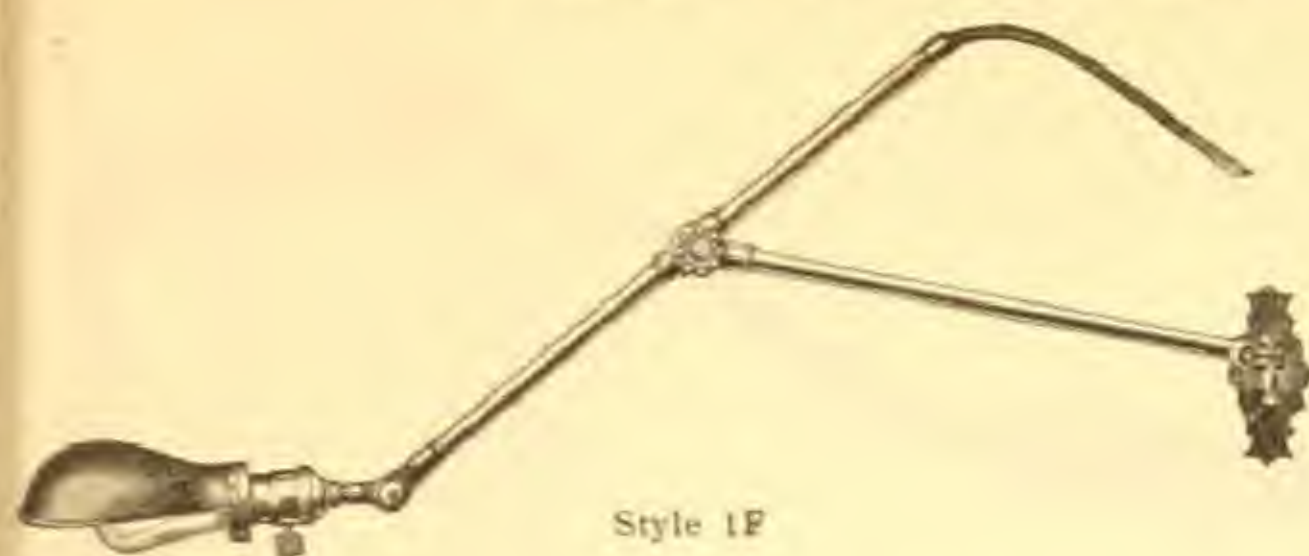
Style 1P



Style 5P



# "WHITE" ADJUSTABLE FIXTURES

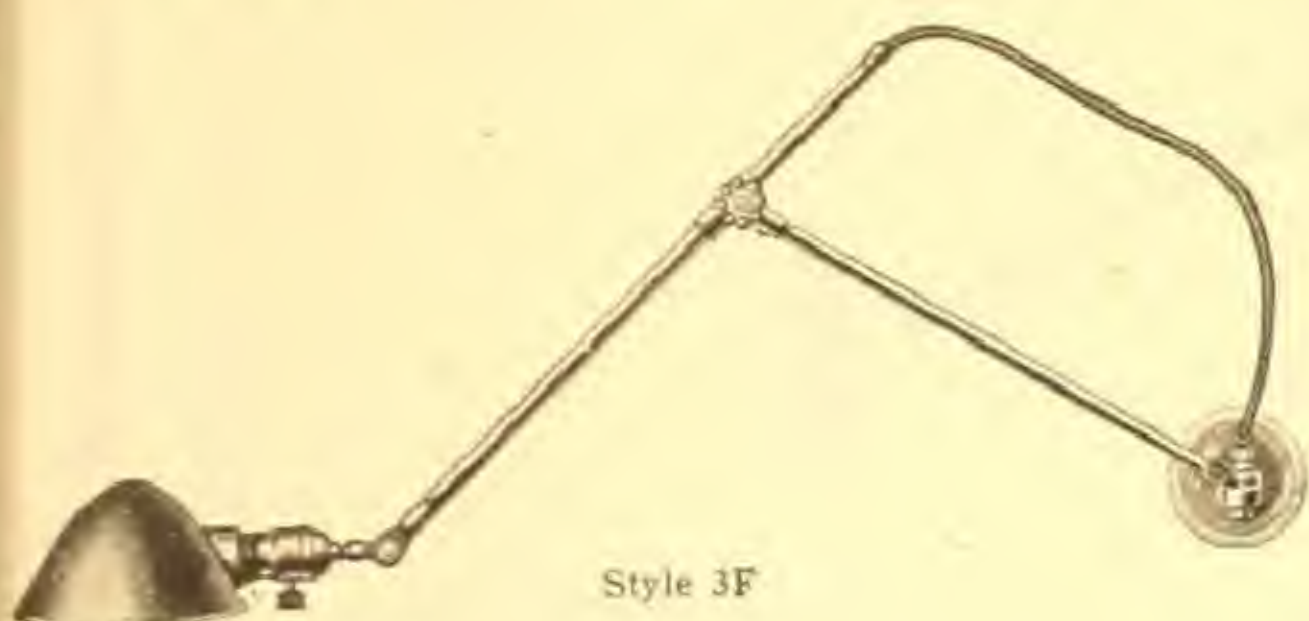


Style 1F

## STYLE 1F

Trade No.	Extension Inches	Price Each
041796	36	\$5.43

Standard finishes: Old brass, oxidized copper or nickel.



Style 3F

## STYLE 3F

Trade No.	Extension Inches	Price Each
041797	36	6.25

Standard finishes: Old brass, oxidized copper or nickel.



Style 7F

## STYLE 7F

Universal wall joint and adjustable lamp joint. Non-telescoping.

Trade No.	Length Inches	Price Each
041798	16	\$3.61

Standard finishes: Old brass, oxidized copper or nickel.



Style 8F

## STYLE 8F

Telescoping and universally adjustable.

Trade No.	Length, In. Closed	Extended	Price Each
041799	15	24	\$4.52

Standard finishes: Old brass, oxidized copper or nickel.



Style 4M

## STYLE 9F

Similar to Style 8F, only longer.

Trade No.	Length, In. Closed	Extended	Price Each
052199	20	34	4.87

Standard finishes: Old brass, oxidized copper or nickel.

## STYLE 4M

Trade No.	Length Inches	Price Each
041800	2 to 20	\$4.75

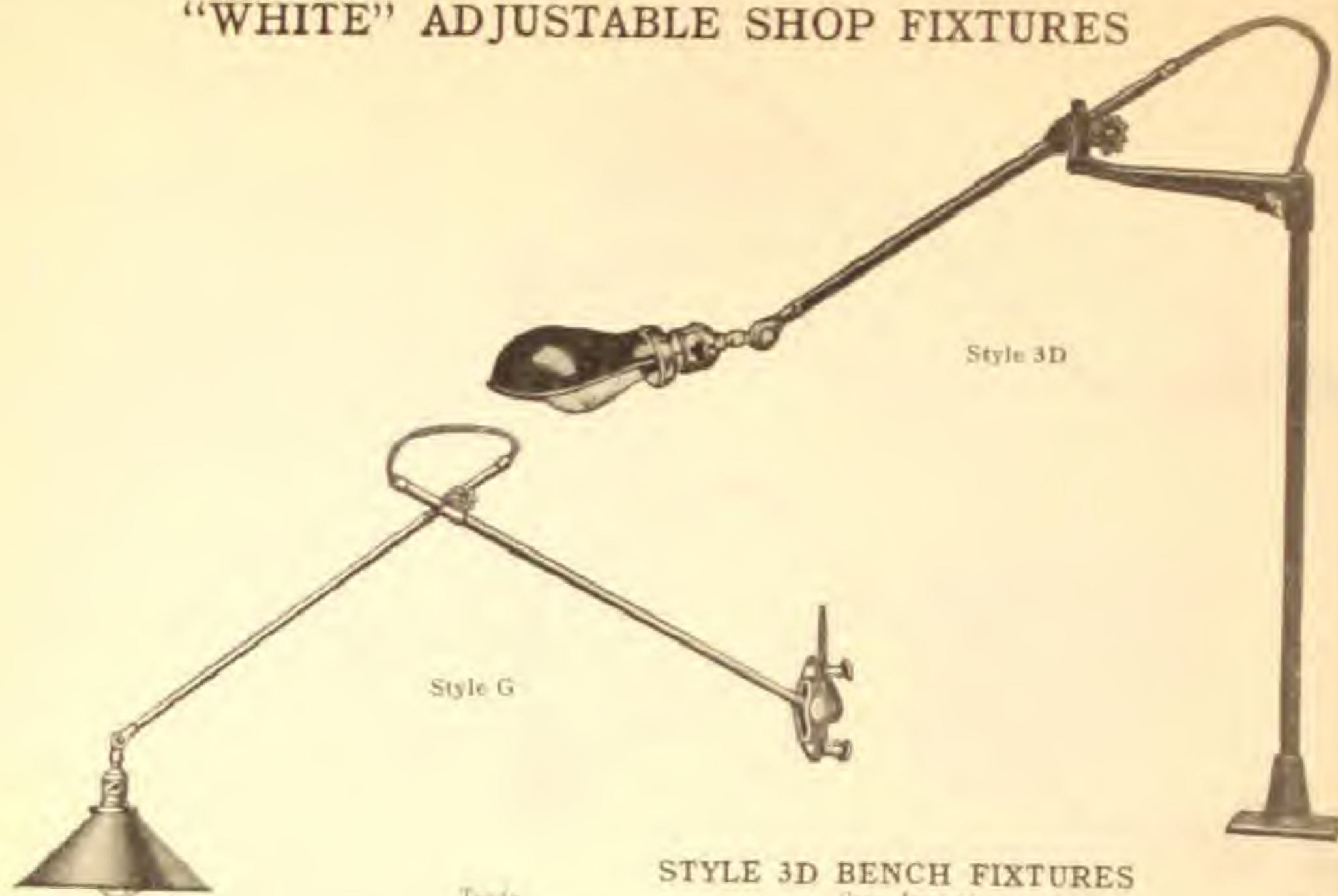
Telescoping and universally adjustable roll-top desk fixture. Enables the lamp to be placed instantly in any position, on, in or above the desk. The telescoping arm permits adjustment to any length, from 2 to 20 inches.

Standard finishes: Old brass, oxidized copper or nickel.

Prices do not include sockets, shades, lamps or wiring.



## "WHITE" ADJUSTABLE SHOP FIXTURES



Style 3D

Style G

Style B

## STYLE 3D BENCH FIXTURES

Trade No.	Upright	Size, Inches Crank Arm	Lamp Arm	Price Each
041838	22	8	18	\$2.75

## STYLE 1D BENCH FIXTURES

041839	22	7	18	2.56
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Style 1D is similar to Style 3D, but wires through lamp arm only.

## STYLE 1DD 2-LIGHT BENCH FIXTURES

041840	28	7	18	6.30
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Style 1DD is similar to Style 3D, but, having two opposite lamp arms, wires through upright.

## STYLE G WALL FIXTURES

Trade No.	Mfr. No.	Size, Feet Main Arm	Lamp Arm	Price Each
041841	1G	1½	1½	\$3.15
041842	1G	2	2	3.29
041843	1G	2½	2	3.35
041844	1G	2½	2½	3.45
041845	1G	3	3	3.57
041846	1G	3½	3	3.63
041847	1G	4	3	3.70
041848	1G	4½	3	3.76
041849	1G	5	3	3.83
041850	1G	5½	3	3.89
041851	1G	6	3	3.95
041852	1G	6½	3	4.02
041853	XG	7	3	5.23
041854	XG	7½	3	5.28
041855	XG	8	3	5.35
041856	XG	8½	3	5.44
041857	XXG	9	3½	6.06
041858	XXG	9½	3½	6.15
041859	XXG	10	3½	6.23
041860	XXG	10½	3½	6.32

## STYLE B WALL FIXTURES

041861	2B	1½	1½	2.42
041862	2B	2	1½	2.50
041863	2B	2½	2	2.65
041864	2B	3	2½	2.79
041865	2B	3½	2½	2.84
041866	2B	4	2½	2.90

Prices are for black finish only, and do not include sockets, shades, lamps or wiring.



# "WHITE" ADJUSTABLE CEILING FIXTURES

## STYLE AW

Trade No.	Mfrs. No.	SIZE, FEET		Price Each
		Main Arm	Lamp Arm	
041801	AW	3	2	\$3 12
041802	AW	3½	2	3 16
041803	AW	4	2½	3 32
041804	AW	4½	2½	3 36
041805	AW	5	2½	3 43
041806	AW	5½	2½	3 49
041807	AW	6	2½	3 56
041808	AW	6½	2½	3 62
041809	AW	7	2½	3 67
041810	AW	7½	2½	3 72

The above wires through both main arm and lamp arm.

## STYLE A

### No. 1A Regular Weight

041811	1A	3	2	2 76
041812	1A	3½	2	2 81
041813	1A	4	2½	2 95
041814	1A	4½	2½	3 01
041815	1A	5	2½	3 06
041816	1A	5½	2½	3 13
041817	1A	6	2½	3 19
041818	1A	6½	2½	3 24
041819	1A	7	2½	3 30
041820	1A	7½	2½	3 36

### No. XA Heavy Weight

041821	XA	8	3	4 35
041822	XA	8½	3	4 42
041823	XA	9	3	4 47
041824	XA	9½	3	4 56
041825	XA	10	3	4 62
041826	XA	10½	3	4 70

### No. XXA Extra Heavy Weight

041827	XXA	11	3½	5 77
041828	XXA	11½	3½	5 85
041829	XXA	12	3½	5 93
041830	XXA	12½	3½	6 03
041831	XXA	13	3½	6 12
041832	XXA	13½	3½	6 19
041833	XXA	14	3½	6 27
041834	XXA	14½	3½	6 36
041835	XXA	15	3½	6 43
041836	XXA	15½	3½	6 52
041837	XXA	16	3½	6 58

The above wires through lamp arm only.

Prices are for black finish only, and do not include sockets, shades, lamps or wiring. Can be furnished in any standard plated finish.



Style AW



Style A



## WHITE ADJUSTABLE FIXTURES

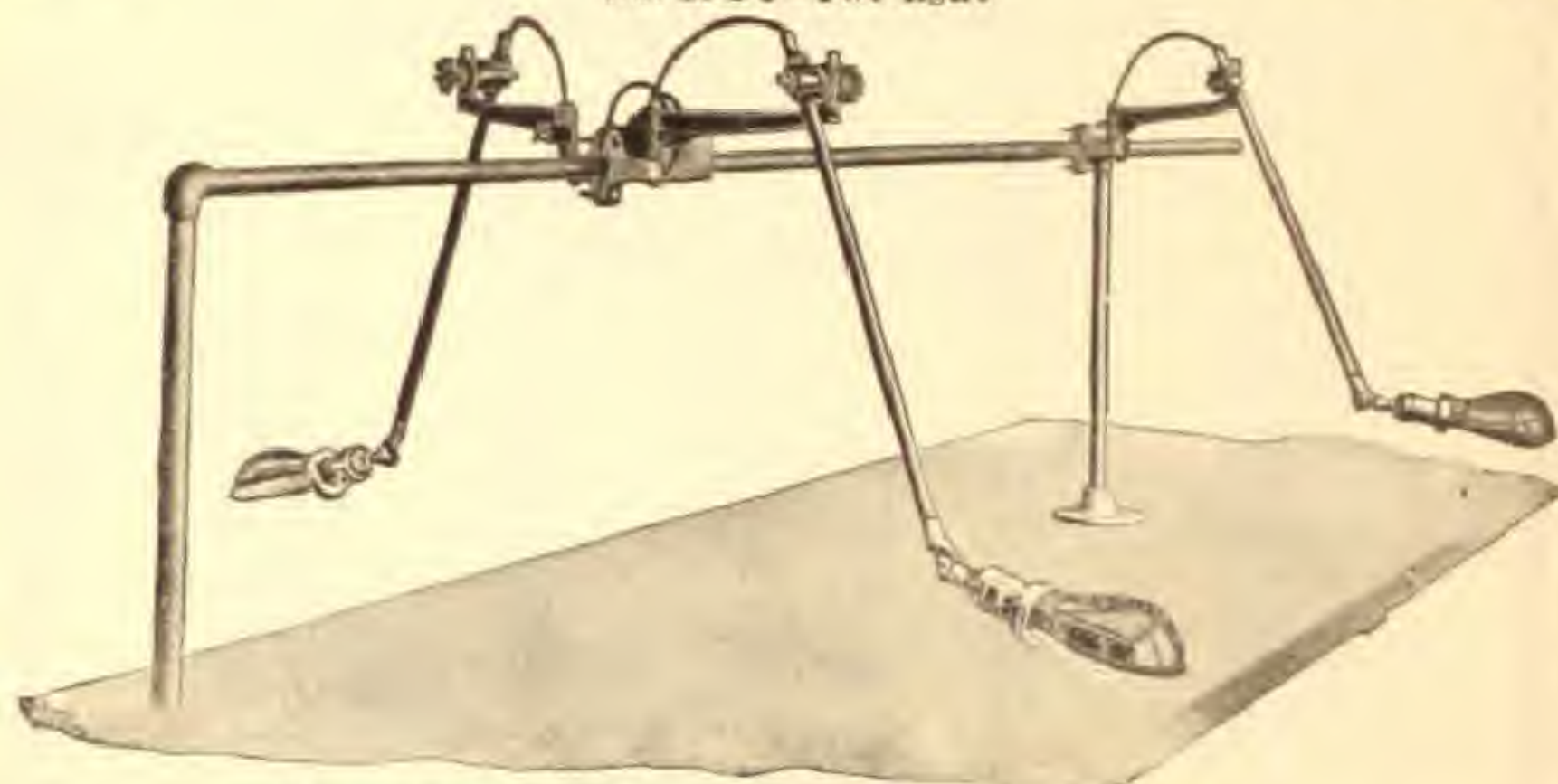
For Stitching Tables, Assembling Tables, Clothing Factories, Etc.

These fixtures afford such complete adjustment that the lamps can be placed in every conceivable position with the rays of light directed exactly as wanted, and shades affording perfect protection to the eyes. This system accomplishes the greatest possible results in service and efficiency.

## STYLE Nos. 1DC AND 1DDC



No. 1DDC—Two-light

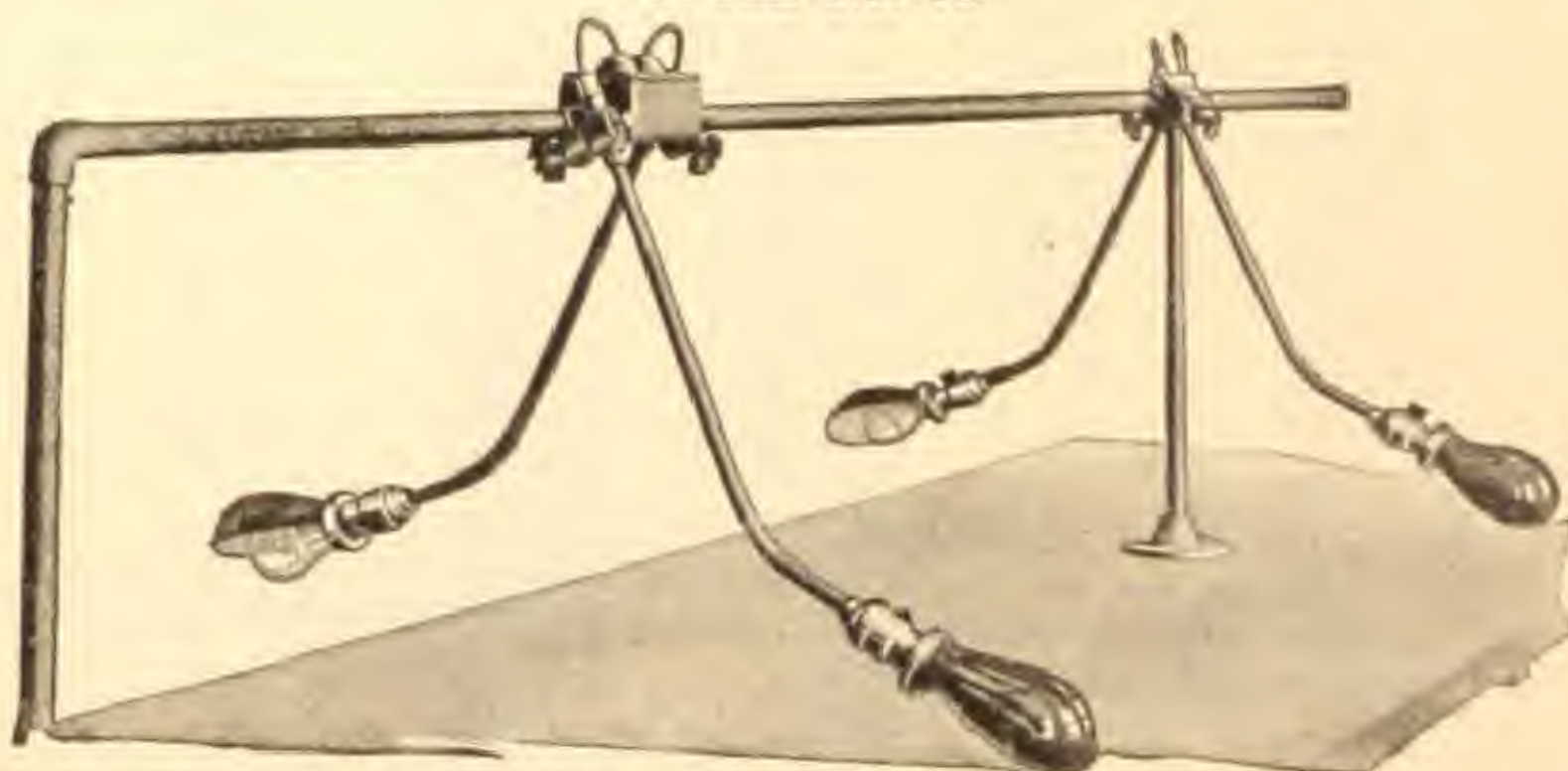


Showing DC Arms Attached to Pipe or Conduit Frame

Nos. 1DC and 1DDC arms are attachable to standard conduit of  $\frac{1}{2}$  and  $\frac{3}{4}$ -inch size. Total reach from conduit attachment to socket joint is 26 inches when fixture is extended in a straight line. Factory black finish.

Trade No.	Mfrs No.	Description	Price Each
130351	1DC	One-light fixture only, without shade, socket or wiring.....	\$2.66
130352	1DDC	Two-light fixture only, without shades, sockets or wiring .....	5.01

## STYLE No. 1S



Showing No. 1S Arms Mounted on Conduit Frame

No. 1S arms are adjustable up and down, and to either side; they also swivel and slide at the attachment joint. Length of arm, including socket, 20 inches. Factory black finish.

130353	1S	Arm, without socket or wiring .....	1.09
130354	1S	Arm fitted with key socket only .....	....
130355	1S	Arm wired complete with key socket, metal half shade, cord and separable plug. Price on application .....	....

Always specify whether for attachment to  $\frac{1}{2}$  or  $\frac{3}{4}$ -inch pipe. Straight arms will be furnished at the same prices, if so ordered. Quotations on special finishes and sizes on request.



## X-RAY SHOW WINDOW REFLECTORS



No. 600 Jove



No. 610 Jupiter



No. 66 Color-Ray



No. 778 Scoop



No. 731 Hood

### No. 600 JOVE REFLECTORS

#### For 100-watt Mazda C Lamps

This powerful, correct, show window reflector, gives a wide distribution of light, and is required for a high display. Jove reflectors should be installed in big show windows which are about as deep as they are high. The brilliant lamp filament is completely concealed and no light is wasted on the window, ceiling or the sidewalk. Both Jove and Jupiter are as small as possible to secure proper results. Style A shade holder is used.

Trade No.	Mfrs. No.	DIMENS., INCHES			Size of Holder, In.	Std. Pkg.	Price Each
		Width	Depth	Height			
67434	600	10	9 $\frac{3}{8}$	7 $\frac{5}{8}$	3 $\frac{1}{4}$	12	\$9.00

### No. 610 JUPITER REFLECTORS

#### For 100-watt Mazda C Lamps

Jupiter is a more concentrating reflector than Jove, and should be used in show windows over eight feet high and one-half to two-thirds as deep. Jupiter should be used in all show windows which have a background, the upper part of which is of mirror or transparent glass.

Jove and Jupiter are of the same general dimensions, and when used together alternately, make a neat appearance in the window. Style A shade holder is used.

Trade No.	Mfrs. No.	DIMENS., INCHES			Size of Holder, In.	Std. Pkg.	Price Each
		Width	Depth	Height			
67435	610	10	10 $\frac{1}{8}$	7 $\frac{5}{8}$	3 $\frac{1}{4}$	12	\$9.00

### No. 66 COLOR-RAYS

#### For Jove and Jupiter Reflectors

No. 66 consists of one color frame, harness for attaching to reflector and four color screens; one each of the standard shades of red, amber, green and blue. The color frame can be attached to either the Jove or Jupiter reflector in a few seconds and the color slides may be slipped in and out of the frame without disturbing it. The color screens are made of gelatin supported by a screen of fine steel strips.

By combining colors almost any tint or shade can be secured to emphasize the spirit or season of the display.

Trade No.	Mfrs. No.	Size Inches		Std. Pkg.	Price Complete
		Width	Depth		
58046	66	10 $\frac{1}{8}$	10 $\frac{7}{8}$	10	\$9.00

### No. 778 SCOOP REFLECTORS

#### For 75-watt Mazda C Lamps

The famous Scoop reflector, correctly designed for the 75-watt Type C lamp, should be used in show windows less than 8 feet high, which are about as deep as they are high. This scoop gives a wide distribution of light similar to the Jove and should be used for high displays.

Style O shade holder, is used.

Trade No.	Mfrs. No.	DIMENS., INCHES			Size of Holder, In.	Std. Pkg.	Price Each
		Width	Depth	Height			
038843	778	7 $\frac{3}{8}$	6 $\frac{1}{8}$	6 $\frac{5}{8}$	2 $\frac{1}{4}$	24	\$6.00

### No. 731 HOOD REFLECTORS

#### For 75-watt Mazda C Lamps

Use the Hood in the same class of show windows as Jupiter, but those which are less than 8 feet high. High shallow windows 8 to 10 feet high and 3 or 4 feet deep will be perfectly lighted with the Hood, which is designed along the same lines as the Jupiter reflector, but smaller, for a smaller lamp.

Trade No.	Mfrs. No.	DIMENS., INCHES			Size of Holder, In.	Std. Pkg.	Price Each
		Width	Depth	Height			
57618	731	8 $\frac{1}{8}$	8 $\frac{1}{8}$	6 $\frac{3}{8}$	2 $\frac{1}{4}$	16	\$7.13



## X-RAY REFLECTORS



No. 535

For efficiency in directing and controlling light and for durability X-Ray Reflectors have no equal. Their brilliancy is everlasting.

They are made of one-piece tough blown glass, having been scientifically designed to break up and diffuse the light rays and eliminate all streaks and unevenness in the lighting.

The reflecting surface is pure silver and is protected by a special green backing which absolutely prevents cracking, peeling or blistering.

The inside of the reflector is fire glazed, so that dust cannot adhere to it. The saving in maintenance and lamp breakage is at once apparent, because neither the lamp nor reflector are removed for cleaning, but merely require wiping with a moist cloth.

X-Ray Reflectors are adapted for all classes of direct and store window lighting.



No. 575

## DISTRIBUTING REFLECTORS

The X-Ray line of distributing reflectors, known as the Beehive type, is designed along the latest scientific lines. They give a wide spread of light and hide the lamp from view without sacrificing the efficiency. This line is especially well adapted for the illumination of factories, shops of all kinds, gymnasiums, armories, indoor ball and tennis courts, press rooms, power houses, and foundries, etc. The Beehive Reflectors are used with all Type B lamps 25 to 60 watts and 75 to 1000-watt Type C lamps.

Trade No.	Mfrs. No.	DIMENS., INCHES			Size of Holder, In.	Size of Lamp Watts	Std. Pkg.	Price Each
038837	535*	5 $\frac{3}{4}$	5 $\frac{1}{8}$	2 $\frac{1}{4}$		75 Type C	24	\$3.00
57621	570	7 $\frac{3}{8}$	6 $\frac{1}{8}$	3 $\frac{1}{4}$		100 Type C	16	5.25
57620	575	9 $\frac{3}{8}$	8	3 $\frac{1}{4}$		200 Type C	8	6.38
57622	580	11 $\frac{1}{8}$	9 $\frac{3}{8}$			300, 400, 500 Type C	4	14.25

\*No. 535 may be used with 25, 40, 50 and 60-watt Type B lamps.

## CONCENTRATING REFLECTORS

The concentrating reflectors, Nos. 696 and 700, should be used whenever a very intense light is wanted over a small area, such as over desks, counters, special machinery, etc.

The No. 700 reflector, which is similar in design to the No. 696, as illustrated, is called a semi-concentrating reflector because it does not spread the light as far as the distributing reflectors, and yet does not confine the light into such a small area as do the concentrating reflectors.



No. 696

Trade No.	Mfrs. No.	DIMENS., IN.		Size of Holder Inches	Size of Lamp Watts	Std. Pkg.	Price Each
038835	696*	8	5	2 $\frac{1}{4}$ O	75 Type C	24	\$4.50
038836	700†	10	5 $\frac{1}{2}$	2 $\frac{1}{4}$ H	100-150 Type C	18	5.25
57616	710	11 $\frac{1}{2}$	6 $\frac{3}{4}$	3 $\frac{1}{4}$ A	200 Type C	6	12.00

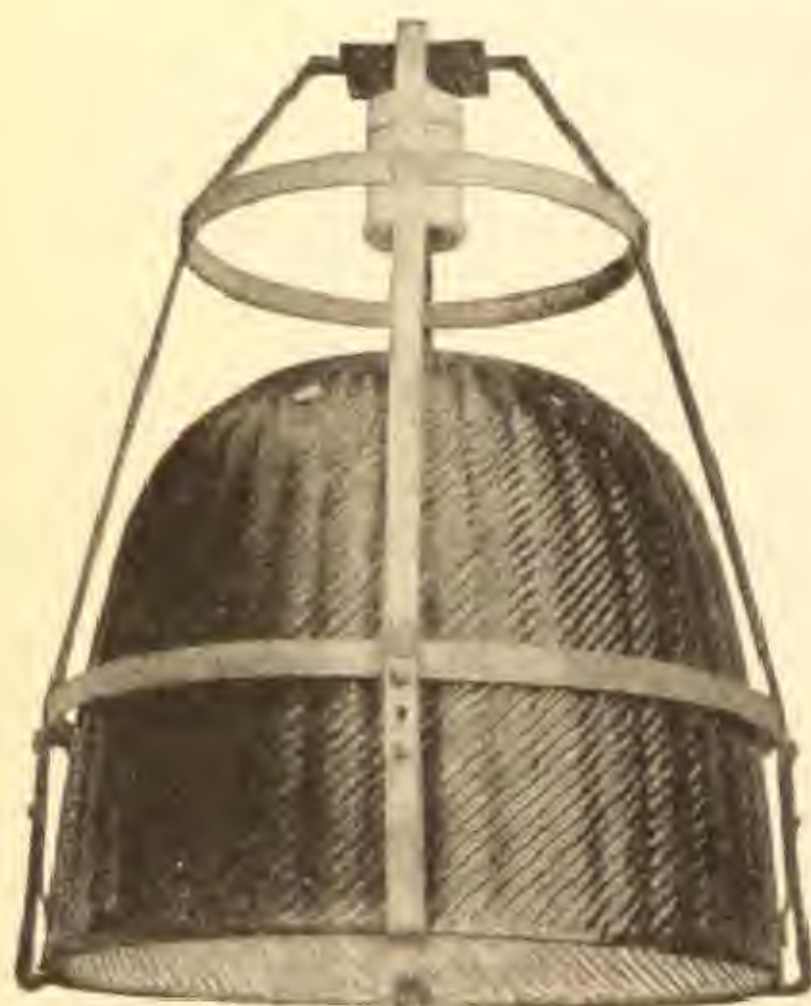
\*No. 696 may be used with 40, 50 and 60-watt Type B lamps.

†No. 700 may be used with 100-watt Type B lamps.

## JUMBO REFLECTORS

The Jumbo is the largest one-piece glass reflector ever blown and is especially suitable for the efficient illumination of large interiors, such as coliseums, erecting shops, armories, etc. They can be used with 750 or 1000-watt Type C lamps.

The special holder can be supplied with an adjustable feature which makes it possible to obtain 2 or 3 degrees of spread to the light.



Jumbo No. 54

Trade No.	Mfrs. No.	DIMENS., INCHES		Size of Lamp Watts	Std. Pkg.	Price, Each Reflector with Holder
57619	54	16 $\frac{1}{2}$	13 $\frac{3}{8}$	750, 1000	1	\$37.50

Dimensions given are for reflector only. The holder is special.



## X-RAY REFLECTORS

### HOODETTE REFLECTORS FOR WALL CASES ETC.



Hoodette  
Reflector



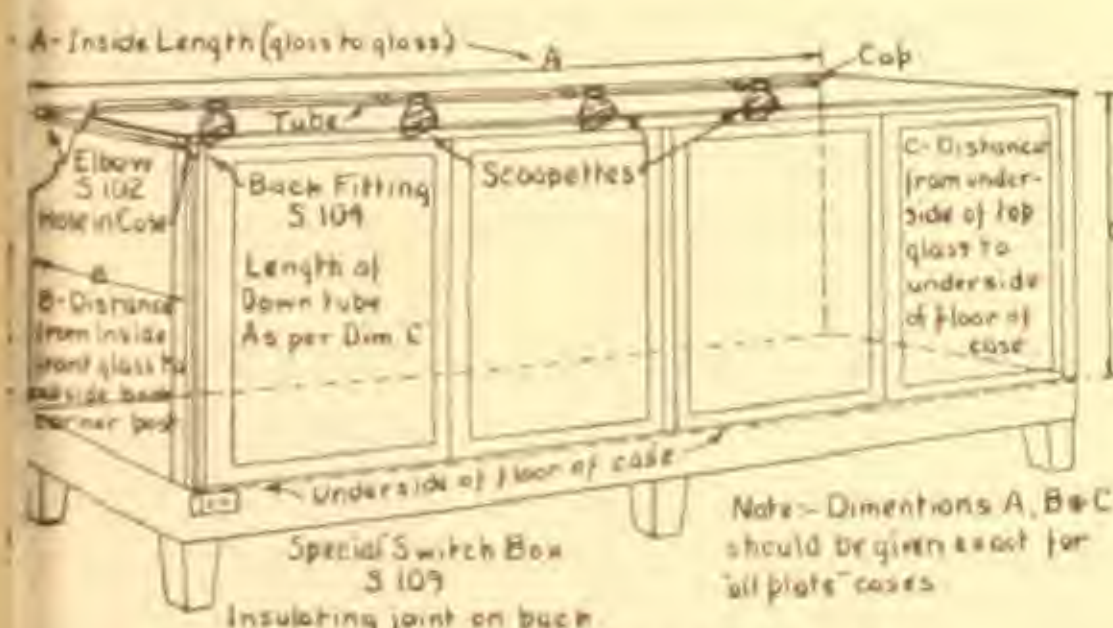
Scoopette  
Reflector



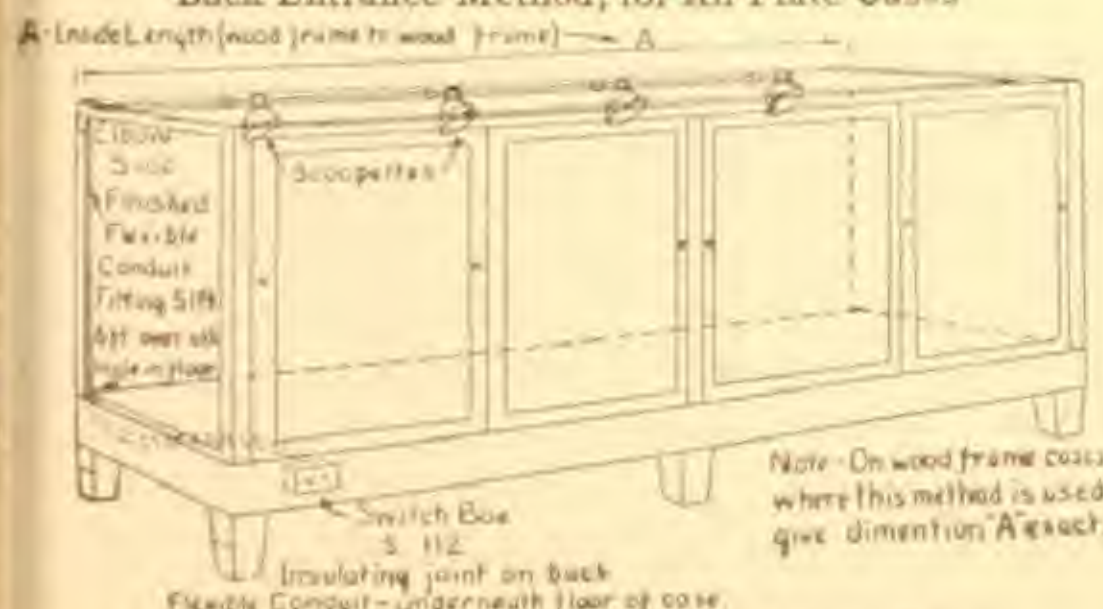
Scoopette Box  
FOR WOOD FRAME CASE OR ALL GLASS CASES HAVING SQUARE ENDS  
Prices for Complete Outfits

Length, Ft. of Cases	NUMBER OF SCOOPETTES PER CASE									
	2	3	4	5	6	7	8	9	10	
3 to 5	\$37.28	\$46.13	\$55.05							
5 to 7	38.78	47.55	56.40	65.25						
7 to 9		48.98	57.83	66.83	75.68	84.53				
9 to 11			59.25	68.10	76.95	85.80	94.65	103.50	112.35	
11 to 13				69.53	78.38	87.23	96.08	104.93	113.78	
13 to 15					79.80	88.65	97.50	106.35	115.20	

The charge for bending tubing for a case with a single curved end is \$3.75, and for a case with two curved ends is \$4.88.



Back Entrance Method, for All Plate Cases



Floor Entrance Method, for Wood Frame Cases

### METHOD OF INSTALLING SCOOPETTE REFLECTORS

Feed wires are brought up one of the back posts; tubing extends across the case at the top at one end, being connected to the front but with an elbow.

This is a most satisfactory method as it is not necessary to disturb the trim, move the case or tip it over.

The feed wires enter from underneath the floor of case, extending up through the flexible conduit, which is concealed back of one of the front corner posts.

Floor entrance outfits can be supplied for same prices as back entrance outfits.

If the show cases in which the Scoopette equipment is to be installed do not conform with the standard sizes given in the tables, send for the special dimension blank so as to give us the exact information. This is very necessary to insure that the equipment will exactly fit the case.



## A GUIDE TO THE SELECTION OF REFLECTING EQUIPMENT

BY PERMISSION OF ENGINEERING DEPT. NATIONAL LAMP WORKS, OF G. E. CO., CLEVELAND, O.

### CALCULATIONS FOR LIGHTING INSTALLATIONS

In Table 3 is indicated the lamp wattage which must be supplied per square foot of floor area to produce standard intensities of illumination for various classes of service, when modern reflecting and diffusing equipments of efficient design are used. While not necessary for the calculation of a lighting installation as outlined below there are included in the table these standard values of illumination intensity expressed in foot-candles. They are given as a reference for those who have a foot-candle meter, a small portable instrument for measuring the intensity of illumination of any point, and are therefore in a position to check up the lighting in various interiors. These values will also prove useful to any whose fuller knowledge of illumination design enables them to calculate accurately the exact results for specific units.

For each location two ranges of values are given under "Watts per Square Foot." The proper value for a given interior will generally fall between these two sets of figures. It will depend upon the proportions of the room to be lighted. Where the ceiling is very high compared with the width of the room, there is a large amount of wall area to absorb light and a higher value of watts per square foot will be required than for a wide, low room.

The values for large rooms, Table 3 apply where the width is 4 to 5 times the average height of the ceiling. Small rooms are assumed as those in which the width is not more than  $1\frac{1}{2}$  times the ceiling height. Rooms of intermediate proportions will require correspondingly corrected values.

To plan a system of general illumination, proceed as follows:

1 — Select reflecting or diffusing equipment suited to the class of installation, having regard for total light output, the distribution of light on surfaces in various planes, glare directly from the units or reflected from polished surfaces, the density of shadows cast and the maintenance required. In Table 1 the more common types of lighting unit are analyzed with reference to these fundamental considerations.

2 — Determine from Table 3 the correct value of lamp wattage per square foot of floor area for a room of the given proportions and class of work carried on.

3 — Multiply the total area of the room in square feet by the selected value of watts per square foot. This will give the total lamp wattage required.

4 — Determine from Table 2 the proper spacing distance for the permissible or desired mounting height, (note that mounting height is the vertical distance between working surfaces and lighting sources).

5 — With approximately this spacing, lay out a symmetrical arrangement of outlets and determine the total number required.

6 — Divide the total wattage (see 3 above) by the total number of outlets. The result will indicate the approximate wattage of each lamp. From this it will be evident what standard size, 75-watt, 100-watt, 150-watt, etc., should be selected. When in doubt install the larger size of lamp rather than the smaller.

The required value of watts per square foot even for a given intensity and size of room will still be subject to variation, depending upon the reflecting properties of the ceilings, walls and work surfaces, the efficiency of the reflectors and diffusing devices, the size of lamp employed and the character of maintenance service provided. The more decorative equipments are usually less efficient. Somewhat lower wattages than those indicated may be sufficient where the ceiling and walls are very light in color, where the most efficient reflectors of the types employed in the respective classifications are used, the largest sizes of lamps employed, and the lighting units kept free from dust. Likewise, somewhat higher values than those called for may be required where ceilings and surrounding surfaces are very dark, inefficient accessories are supplied, the smallest sizes of MAZDA C lamps are employed, or the lighting units are cleaned only at long intervals.

A GU





## A GUIDE TO THE SELECTION OF REFLECTING EQUIPMENT

### Illumination on Horizontal Surfaces



Illumination on horizontal surfaces is a prime requisite in offices, drafting rooms and those shops where the problem is to provide the best illumination for sustained vision of flat surfaces on the horizontal or slightly oblique planes in which papers, books and other flat objects are usually examined.

### Illumination on Vertical Surfaces



Illumination on vertical surfaces of work or machine parts is fully as important as the lighting of the surface in the horizontal plane. In a consideration of the amount of light necessary for factory illumination, the criterion must be the intensity on all working surfaces whether vertical, horizontal or oblique.

### Favorable Appearance of Lighted Room



Favorable appearance of lighted room refers only to the general or casual effect produced by the complete system and is not intended to rate the unit as to satisfaction from the standpoint of good vision or freedom from eye fatigue.

### Direct Glare



Direct glare is the most frequent and serious cause of bad lighting. It results among other things from unshaded or inadequately shaded light sources located within the field of vision, or from too great contrast between the bright light source and a dark background or adjacent surfaces. Glare should be avoided by the use of proper reflecting and diffusing equipment.

### Reflected Glare



Reflected glare from polished working surfaces is particularly annoying because of the necessity of directing the eyes toward those surfaces and further because the eyes are by nature especially sensitive to light rays from below. The harmful effects of this specular reflection can be minimized by properly shielding from below or diffusing the source.

### Shadows



Shadows, that is, differences in brightness of surfaces, are essential in observing objects in their three dimensions but are of little or no value in the observation of flat surfaces. Where shadows are desirable, they should be soft and luminous, not so sharp and dense as to confuse the object with its shadow.

### Maintenance























Maintenance depends upon contour of reflector, construction of fixture and condition of ceiling. The rating is based upon the likelihood of breakage, the labor involved in maintaining the units at comparable degrees of efficiency and indication given of need of cleaning.



A GUIDE TO THE SELECTION OF REFLECTING  
EQUIPMENT


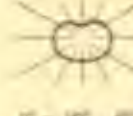





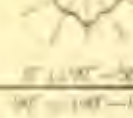



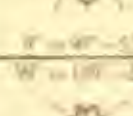
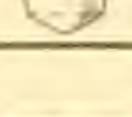
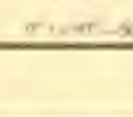
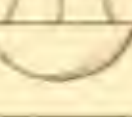

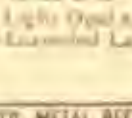



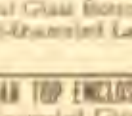

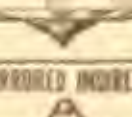
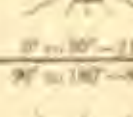
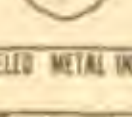
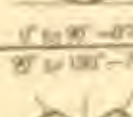


TABLE No. 1

LIGHTING UNIT			EFFICIENCY BASED UPON		FAVORABLE APPEARANCE OF LIGHTED ROOM	DIRECT GLARE	REFLECTED GLARE	SHADOWS	MAINTENANCE
		ILLUMINATION ON HORIZONTAL	ILLUMINATION ON VERTICAL						
DIRECT LIGHTING PORCELAIN ENAMEL REFLECTORS									
1	R I M DOME  Clear Lamp	90° to 180°—0% 	A+	B+	C+	C	D	C+	A+
2	R I M DOME Bowl Enamelled Lamp	90° to 180°—0% 	A-	B	B	B+	B	B+	A-
3	GLASS TOP DOME  Bowl Enamelled Lamp	90° to 180°—0% 	B	C+	A-	A-	B	B+	B
4	DEEP BOWL  Clear Lamp	90° to 180°—0% 	B+	B-	C	C+	D	C	A
5	DEEP BOWL Bowl Enamelled Lamp	90° to 180°—0% 	B	C+	C	B	C+	C+	B+
6	FLAT CONE Shrouding Bowl  Clear Lamp	90° to 180°—1% 	B	C+	C+	C+	D	C	B+
7	FLAT CONE  Clear Lamp	90° to 180°—1 1/2% 	B	B	C	D	D	C	A+
DIRECT LIGHTING OPEN GLASS REFLECTORS									
8	LIGHT DENSITY OPAL  Clear Lamp	90° to 180°—3 1/2% 	B+	B	B+	C+	D	B-	B
9	LIGHT DENSITY OPAL Bowl Enamelled Lamp	90° to 180°—3 1/2% 	B	B-	A-	B-	B-	B+	B-
10	DENSE OPAL  Clear Lamp	90° to 180°—12 1/2% 	A+	B+	B+	B	D	C+	A-
11	DENSE OPAL Bowl Enamelled Lamp	90° to 180°—15 1/2% 	B+	B-	A-	B+	B-	B	B
12	MIRRORED GLASS  Clear Lamp	90° to 180°—0% 	A	B	C	C+	D	C	A-
13	MIRRORED GLASS Bowl Enamelled Lamp	90° to 180°—0% 	B	C+	C	B-	C	C+	B-
14	PRISMATIC INDUSTRIAL  Clear Lamp	90° to 180°—18% 	A+	A-	B+	C+	D	C+	B-



# A GUIDE TO THE SELECTION OF REFLECTING EQUIPMENT

TABLE No. 1—Continued

LIGHTING UNIT			EFFICIENCY BASED UPON		FAVORABLE APPEARANCE OF LIGHTED ROOM	DIRECT GLARE	REFLECTED GLARE	SHADOWS	MAINTENANCE
			ILLUMINATION ON HORIZONTAL	ILLUMINATION ON VERTICAL					
DIRECT LIGHTING ENCLOSING AND SEMI-ENCLOSING UNITS									
15	DIFFUSING GLOBE Light Opal 	90° to 180°—35% 	B—	B—	A	B—	B	B+	B+
16	ONE-PIECE OPAL Flared Reflector Type 	90° to 180°—40% 90° to 180°—50% 90° to 180°—45% 	B	B	A	B	B	B+	A—
17	DIFFUSING GLOBE Large Metal Reflector 	90° to 180°—40% 90° to 180°—50% 90° to 180°—45% 	B	B	B+	B	B	B+	B+
18	SEMI-ENCLOSING Metal Reflector 	90° to 180°—30% 90° to 180°—40% 90° to 180°—35% 	B	B	A	B	B	B+	B—
19	SEMI-ENCLOSING Glass Reflector 	90° to 180°—15% 90° to 180°—25% 90° to 180°—20% 	B	B	A	A	A—	A—	C+
20	TWO-PIECE GLASS Opal Ball and Enamelled Bowl 	90° to 180°—12% 90° to 180°—22% 90° to 180°—17% 	B	B	A	B+	B+	A—	B
21	ONE-PIECE GLASS Enamelled Bowl and Bowl 	90° to 180°—12% 90° to 180°—22% 90° to 180°—17% 	B	B	A	B+	B+	A—	A—
SEMI INDIRECT AND INDIRECT LIGHTING UNITS									
22	LIGHT OPAL 	90° to 180°—30% 90° to 180°—40% 90° to 180°—35% 	B—	C+	A	B+	B+	A—	C
23	DENSE OPAL (for Light Opal and Enamelled Lamp) 	90° to 180°—20% 90° to 180°—30% 90° to 180°—25% 	C+	C	A	A+	A	A+	C
24	ENAMELED METAL REFLECTOR Opal Glass Bottom 	90° to 180°—45% 90° to 180°—55% 90° to 180°—50% 	B—	C	A	A	B+	B+	C
25	ENAMELED METAL REFLECTOR Opal Glass Bottom Enamelled Lamp 	90° to 180°—45% 90° to 180°—55% 90° to 180°—50% 	C+	C	A	A+	A	A	C
26	CLEAN TOP ENCLOSED Enamelled Glass 	90° to 180°—54% 90° to 180°—64% 90° to 180°—59% 	C+	C	A	A+	A	A	B
27	MIRRORED INDIRECT 	90° to 180°—30% 90° to 180°—40% 90° to 180°—35% 	C+	C	B+*	A+	A	A+	C
28	ENAMELED METAL INDIRECT 	90° to 180°—30% 90° to 180°—40% 90° to 180°—35% 	C	C	B+	A+	A	A+	C

\*For Luminous Bowl type, rate A.



A GUIDE TO THE SELECTION OF REFLECTION  
EQUIPMENT

TABLE No. 2

## Spacing and Mounting Height for Lighting Units in Feet

*Mounting Height of Unit	PERMISSIBLE DISTANCE BETWEEN OUTLETS AND SIDE WALLS				†Suspension Distance Indirect Units, Ceiling to Top of Reflector
	Permissible Distance between Outlet	In Usual Location Where Aisles and Storage are Next to Wall	In Offices or Where Work Benches are not Next to Wall		
4	6	3	2		1
5	7½	3½	2½		1¼
6	9	4½	3		1½
7	10½	5	3½		1¾
8	12	6	4		2
9	13½	6½	4½		2¼
10	15	7½	5		2½
11	16½	8	5½		2¾
12	18	9	6		3
13	19½	9½	6½		3¼
14	21	10½	7		3½
15	22½	11	7½		3¾
16	24	12	8		4
18	27	13½	9		4½
20	30	15	10		5
22	33	16½	11		5½
24	36	18	12		6
27	40½	20	13½		6¾
30	45	22½	15		7½
35	52½	26	17½		8¾
40	60	30	20		10

\*Note that the permissible distance between outlets depends upon the height of the light source above the work, not above the floor. In offices, the work plane corresponds to the desk tops, usually 2½ feet above the floor; in factories, the work plane will often be 3½ or 4 feet above the floor. Note that in the case of semi and totally-indirect lighting units, the figures in this column are the height of the ceiling above the work.

†Suspension distances are based on best distribution of light and efficiency of utilization for standard units. In some installations other considerations may require a different suspension distance.

## CHOICE OF REFLECTING EQUIPMENT

Various lighting units are rated in accordance with seven fundamentals, illustrated on the following page. The importance of these criteria is different for different classes of work. It must be emphasized that the relative importance of the various criteria should be carefully weighed with respect to the particular problem at hand. For instance, in an office the criteria would rank in importance: (1) direct glare; (2) reflected glare; (3) shadows; (4) efficiency based upon illumination of horizontal; (5) maintenance; (6) vertical illumination. On the other hand, where lamps are to be hung above a crane in a foundry, the order of importance would be: (1) efficiency based upon illumination on horizontal; (2) vertical illumination; (3) maintenance; (4) shadows; (5) direct glare; (6) Reflected glare.

In the chart the best rating given is A+, which denotes the highest degree of excellence while D, the lowest, indicates that an installation of units so rated in any particular, will very likely prove unsatisfactory in an installation where this factor is important. The ratings B and C while indicating a result not equal to A, are decidedly superior to rating D. In other words a rating B, C+ or C in certain respects does not disqualify a unit provided that in the essential requirements of a given location, the unit is rated A or B+.

A+ }  
A } Excellent  
A- }

B+ }  
B } Good  
B- }

C+ }  
C } Fair  
C- }

D very bad



## A GUIDE TO THE SELECTION OF REFLECTING EQUIPMENT

TABLE No. 3

### PRESENT STANDARD OF ILLUMINATION

This table is based upon Mazda C lamps with reflecting or diffusing media in the sizes and of the character, respectively, most often used in modern practice.

The values given are for average service conditions during the life of the lamps and include allowance for depreciation due to moderate collections of dust, etc.

	Foot-candles	WATTS PER SQ. FT.†	
		Large Rm.	Small Rm.
Auditorium, Church.....	2-4	.4-.8	.6-1.2
Armory, Public Hall.....	3-6	.6-1.2	.9-1.8
School, classroom, study room, library.....	5-10	1.25-2.5	1.75-3.5
Store			
Show window.....	10-70	†	†
First floor department, shop on bright street or corner.....	8-12	2-.3	2.4-3.6
Other clothing, dry goods, haberdashery, millinery, jewelry, etc.....	5-10	1.25-2.5	1.75-3.5
Other drug, grocery, meat, bakery, book, florist, furniture, etc.....	4-8	1.-2	1.4-2.8
Office			
Private, general.....	6-12	1.2-3.	1.8-3.6
Drafting room.....	10-20	2.5-4.7	3.5-6.5
Industrial*			
For Intermediate and Auxiliary Spaces in Interiors: Aisles, Passageways, Stairways, etc.....	1-2	.15-.3	.2-.4
For handling coarse material and work involving no discrimination of detail.....	2-4	.3-.6	.4-.8
For rough manufacturing operations, such as: Rough assembling, rough forging, rough woodworking, rough benchwork, ice making, etc.....	3-6	.45-.9	.6-1.2
For medium manufacturing operations, such as: Medium machine work, medium assembling, automatic machine work, meat packing, tobacco manufacturing, laundries, etc.....	5-10	.75-1.5	1.-2.
For fine manufacturing operations, such as: Fine assembling, fine pattern making, fine machining on metals, knitting, office work, etc.....	6-12	.9-1.8	2.-2.4
For extra fine manufacturing operations, such as: Watch and jewelry making, engraving, typesetting, machine stitching on shoes, cutting and sewing dark garments, etc.....	10-50	1.5 ...	2.0 ...
Building exteriors.....	3-20	†	†

\*It must be remembered that, other things being equal, work on dark goods requires a higher illumination than work on light goods.

†The values for watts per square foot may be reduced slightly if the walls and ceilings are very light in color, if the most efficient reflectors or diffusers of the type commonly employed in the several classifications are used, if the maintenance and cleaning service is the best, or if larger sizes of lamps are employed. On the other hand, these values may be increased slightly if the walls, ceiling and surroundings are dark, if inefficient reflecting and diffusing equipment is used or if smaller sizes of lamps are employed.

‡The lighting of show windows and of building exteriors presents special problems. Manufacturers of reflectors and projectors for these fields furnish information as to the proper application of their product.



## HUBBELL SHADE HOLDERS

## SHADE HOLDERS—SCHEDULE D



## Three-screw Type



No. 5339



No. 5594



No. 5528



No. 6244



No. 6170



No. 5690

Trade No.	Mfrs. No.	Size Inches	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
040654	5339	2 1/4	Finished	50	500	40	\$7.50
87333	5339	2 1/4	Unfinished	50	500	40	6.75
040657	5594	2 1/4	Solid finished	50	500	42	8.50
87336	5594	2 1/4	Solid unfinished	50	500	42	7.75
040655	5340	3 1/4	Finished	25	250	27	14.85
87334	5340	3 1/4	Unfinished	25	250	27	13.05
040658	5596	3 1/4	Solid finished	25	250	30	15.90
87337	5596	3 1/4	Solid unfinished	25	250	30	14.20
040656	5595	4	Finished	25	100	20	20.55
87335	5595	4	Unfinished	25	100	20	18.35
040659	5597	4	Solid finished	25	100	20	23.45
87338	5597	4	Solid unfinished	25	100	20	21.65

## Locking Spring Type

040660	5528	2 1/4	Finished	50	250	17	8.70
87339	5528	2 1/4	Unfinished	50	250	17	7.65

## Deep Skirted—Three Screw Type

040674	6244	2 1/4	Finished	50	500	40	8.50
87343	6244	2 1/4	Unfinished	50	500	40	7.60

## Deep Skirted—Locking Spring Type

87345	6170	2 1/4	Finished	50	250	20	9.25
87346	6170	2 1/4	Unfinished	50	250	20	8.75

## Form H Type

200167	5690	2 1/4	Finished	25	100	20	15.90
200168	5690	2 1/4	Unfinished	25	100	20	14.20

Shade holders with contractile collar will fit threaded shell sockets equally as well as the beaded shell.

The contractile collar type is recommended where absolute security is desired.

Standard finish is brush brass.



# HUBBELL SHADE HOLDERS AND ATTACHMENTS

## DIRECT THREADING SHADE HOLDERS

### SCHEDULE G

#### Three-screw Type



No. 6269

Trade No.	Mfrs. No.	Size In.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
87347	6269	2 1/4	Finished, ventilated	50	500	30	\$7.50
87349	6269	2 1/4	Unfinished, ventilated	50	500	30	6.75
124913	6271	3 1/4	Finished, ventilated	25	250	37	14.85
124914	6271	3 1/4	Unfinished, ventilated	25	250	37	13.05



No. 6275

#### Locking Spring Type

87348	6275	2 1/4	Finished, ventilated	50	250	20	9.25
87350	6275	2 1/4	Unfinished, ventilated	50	250	20	8.75



No. 6750

#### Form H Type

200176	6750	2 1/4	Finished, ventilated	25	100	20	15.90
200177	6750	2 1/4	Unfinished, ventilated	25	100	20	14.20

## SHADE HOLDERS FOR WEATHERPROOF SOCKETS

### SCHEDULE D



No. 6633

200178	6633	2 1/4	For medium base sockets	25	200	25	8.50
200179	6634	3 1/4	For medium base sockets	10	200	30	26.50
200180	6635	4	For medium base sockets	10	100	20	32.00

## SHADE HOLDERS FOR MOGUL BASE SOCKETS

### SCHEDULE D

#### For Brass Shell Sockets

040675	6276	4	Ventilated	20	100	20	40.00
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#### For Porcelain Mogul Sockets

200181	6636	3 1/4		20	100	10	37.00
200182	6637	4		20	100	10	45.00



No. 6276

## ATTACHMENTS FOR PULL SOCKETS

### SCHEDULE F

#### For Brass Shell Pull Sockets

Trade No.	Mfrs. No.	Description	Car- ton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
040664	5828	For 8, 10 and 12-inch reflectors	25	250	21	\$0.25
040666	5829	For 14-inch reflector	25	250	22	.25
040668	5953	For 16-inch reflector	25	100	24	.30
040669	5954	For 18 and 20-inch reflectors	25	100	24	.30
076724	6317	For 22-inch reflector	25	100	25	.40



No. 6637

#### For Porcelain Pull Sockets

076727	5957	For 8, 10 and 12-inch reflectors	25	250	21	.25
076728	5958	For 14-inch reflector	25	250	22	.25
076729	5959	For 16-inch reflector	25	100	24	.30
124911	5960	For 18 and 20-inch reflectors	25	100	24	.30
124912	5961	For 22-inch reflector	25	100	25	.40



No. 5828

## ECONOMY EXTENDERS

### SCHEDULE F

These extenders take the place of regular chain guide and are attached direct to socket interior. Adapted for use with Hubbell Sockets only and reflectors up to 10 inches in diameter. Equipped with 6 feet of black cord and No. 5919 adjustable acorn.

040667	5880	For standard sockets	25	250	18	.30
076725	6306	For electrolier sockets	25	250	18	.30

Above prices cover attachments and extenders in brass finish.



No. 5880



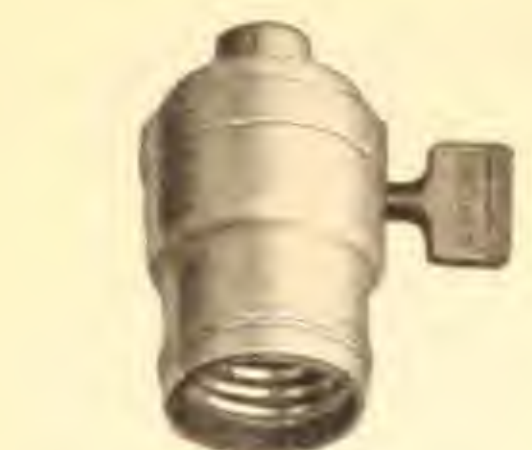
## BRYANT SHADE HOLDERS

NATIONAL ELECTRICAL CODE STANDARD

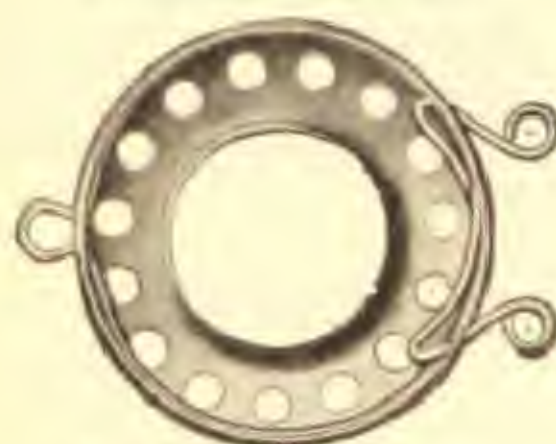
## SCHEDULE D2

## UNO SHADE HOLDERS

Uno Shade Holders attach directly to the threaded bead, which is a standard feature of all Bryant-Perkins Brass Shell Medium Base Sockets and Receptacles. Being made in one piece, Uno Shade Holders are cheapest in first cost, as well as in cost of attaching to socket. Because of the wedge thread in the holder, the fit between socket shell and holder is more rigid than any other holder on the market.



Uno Screw Holder being Attached to Socket

Uno Spring Holder  
No. 502

No. 628



No. 521

Emergency Holder  
No. 443Receptacle Holder  
No. 522

Trade No.	Mfrs. No.	Size Inches	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	PRICE Finished	per 100 Unfinished
121376	501	2 1/4	Ventilated...	50	500	37	\$6.00	\$5.30
121377	532	2 1/4	Solid .....	50	500	40	8.50	7.75
121378	502	2 1/4	Ventilated...	50	250	22	9.25	8.75
121379	533	2 1/4	Solid .....	50	250	20	9.05	8.00
121380	503	H	Ventilated...	25	250	35	15.50	13.75
121381	504	H	Ventilated...	25	100	15	15.90	14.20
121382	505	3 1/4	Ventilated...	25	250	39	14.85	13.05
121383	534	3 1/4	Solid .....	25	250	42	15.90	14.20
121384	506	3 1/4	Ventilated...	25	100	18	19.00	17.50
121385	535	3 1/4	Solid .....	25	100	18	19.35	17.85
121386	511	4	Ventilated...	10	100	27	20.55	18.35
121387	536	4	Solid .....	10	100	28	23.45	21.65

Nos 501, 532, 503, 505, 534, 511 and 536 hold shade by means of three screws; Nos. 502, 533, 504, 506 and 535 hold shade by means of spring grip.

## WEATHERPROOF SHADE HOLDERS

These shade holders may be used in connection with any porcelain or composition sockets or receptacles which are provided with a shade holder groove.

Trade No.	Mfrs. No.	Size Inches	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100 Finished
121396	628	2 1/4	25	250	25	\$8.50
121397	629	3 1/4	10	100	17	16.25

## NEW WRINKLE EMERGENCY SHADE HOLDERS

Designed especially for use in connection with porcelain sockets and receptacles. The method of attachment is by means of a screw shell, thoroughly insulated from the holder itself, which threads onto the outside of the screw shell of the lamp socket.

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100 Finished
121391	443	2 1/4-inch, solid .....	25	100	15	\$20.00
121392	444	Form H, ventilated .....	10	50	9	25.00
121393	445	3 1/4-inch, ventilated .....	10	50	9	30.00

## NEW WRINKLE RECEPTACLE SHADE HOLDERS

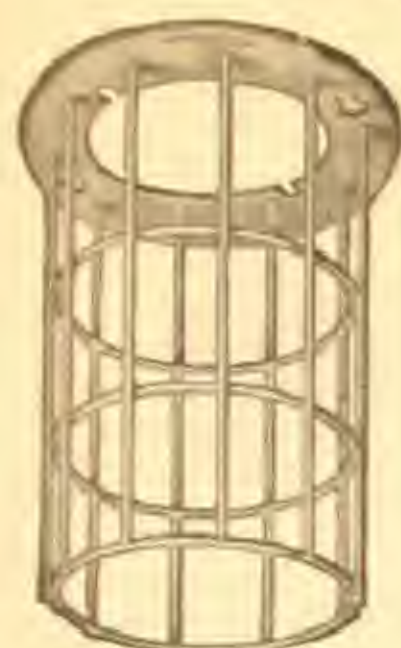
For use with removable ring porcelain receptacles.

121394	521	2 1/4-inch, ventilated .....	25	100	14	15.00
121395	522	3 1/4-inch, ventilated .....	25	50	8	20.00

The standard finish on shade holders is brush brass, which will be shipped when no finish is specified. Prices for other finishes quoted upon application.



## BENJAMIN FIXTURE GUARDS



No. 1400

### OUTLET BOX LAMP GUARDS

Guard bases are slotted to fit either 3¼ or 4-inch boxes and will take 60 and 75-watt lamps.

Trade No.	Mfrs. No.	DIMENS., INCHES		Price Each
		Diam.	Depth	
120465	1400	4	5¾	\$1.01

### PENDENT LOCK GUARDS

Have a grooved band and eyebolt for attaching to the head of an enameled steel reflector. Diameter given is that of the reflector which the guard fits. Padlock may be passed through the rim and eyebolt for locking.

Trade No.	Mfrs. No.	DIMENS., IN.		Price Each	Trade No.	Mfrs. No.	DIMENS., IN.		Price Each
		Diam.	Depth				Diam.	Depth	
120466	1377	6	1¼	\$1.91	27526	1386	12	2¾	\$2.25
27522	1378	7	1¼	1.97	27527	1388	14	4	2.44
27523	1380	8	1½	2.03	27528	1390	15	6¾	2.81
120474	1381	8¼	1½	2.03	27529	1392	16	5	3.04
27524	1382	9	1¾	2.08	27530	1394	18	5¾	3.38
120467	1383	10	2¾	2.14	27531	1396	20	7	3.94
27525	1385	11¾	2	2.25					



No. 1386 Guard

### CEILING LOCK GUARDS

Have hinge adapted for attaching to the ceiling by two wood screws, and a fastening plate opposite the hinge, likewise attached by screws. The plate is designed to receive a loop on the guard. Padlock may be used if desired.

27533	†1350	10	7	1.80	27536	1356	16	6¾	3.15
27534	†1352	12	8	2.25	27537	1358	18	8¾	3.94
27535	†1354	14	9	2.81	27538	1360	20	11	4.50

The two-piece ceiling lock guards Nos. 1362-1374 have strong cylindrical upper guard adapted for attaching to the ceiling by three or more screws, and a lower or shallower portion hinged to it at the bottom. They are particularly designed for single unit ceiling fixtures.

Trade No.	Mfrs. No.	CYLINDRICAL GUARD, INCHES		HINGED GUARD, INCHES		Height Over All Inches	Price Each
		Diam.	Depth	Diam.	Depth		
27539	†1362	13¼	12	10½	1¾	9¾	\$3.38
27540	†1364	13¾	12	10½	1¾	11¾	3.60
27541	†1366	13½	12	10½	1¾	13¾	3.94
27542	†1368	16¾	15	13½	4	14	4.50
27543	†1370	16½	15	13½	4	16	5.06
27544	†1372	20½	19	17½	5¾	17¾	5.63
27545	†1374	20½	19	17½	5¾	21¾	6.75



No. 1356

### WIRE GUARDS

#### For Elliptical Angle Reflectors

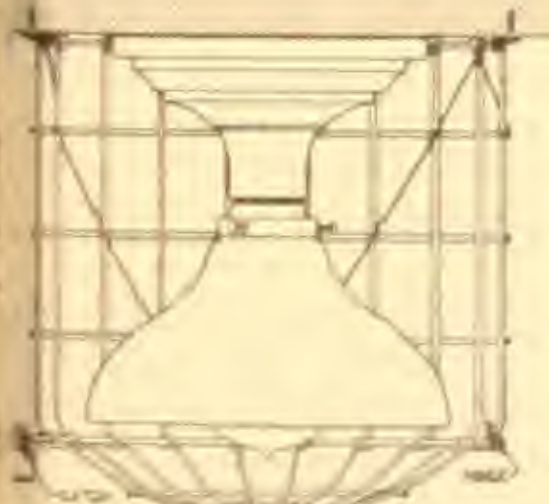
Wire guards Nos. 1320-1322 are intended for use on Benjamin Elliptical Angle Reflectors listed on another page.

Trade No.	Mfrs. No.	For Elliptical Angle Reflectors, Nos.	Price Each
120470	1320	5522, 5525	\$1.41
120471	1321	5526	1.69
120472	1322	5537, 5538	2.25

Wire parts on all guards listed above are of strong steel, tinned after welding. Fittings are galvanized.

Prices for all of above lock guards are less brass padlock shown. For the latter with two keys, add 95 cents to list.

†These guards are furnished on special order only, and require two weeks' notice.



No. 1364



No. 1320 (Guard Only)



## MATTHEWS HOLD FAST SPECIALTIES

### HOLDFAST LAMP GUARDS



Mill Type

For Brass and W. P. Sockets



For Brass Sockets



For W. P. Sockets

The rigid construction of the Matthews Holdfast Lamp Guard, the fact that it is permanently clamped to the socket and the spiral spring cushion in the center make it a perfect protection against the breakage of incandescent lamps. The trap which is clamped across the bottom opening effectually prevents the unauthorized removal of lamps from the sockets. The guard is locked to the socket by bending the set screw.

The Matthews Holdfast Lamp Guard will not permit the hot lamp to get closer than 1 inch to any inflammable material and the guard does not have to be removed from the socket to replace the lamp.

The only guard approved by all insurance companies and underwriters.  
Guaranteed ten years.

#### For New 25 and 50-watt Mill Type Mazda Lamps

FOR BRASS SHELL SOCKETS		FOR WEATHERPROOF SOCKETS		Size Wire B. W. G.	Less than 50	QUANTITY LIST PRICES, PER 100			
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.			50 to 100	100 to 500	500 to 1000	1000 and More
100839	MT14B	100840	MT14WP	14	\$56.00	\$52.00	\$48.00	\$44.00	\$40.00

For 6, 8, 10, 16, and 32 C. P. Carbon and 15, 25, 40, 50 and 60-watt Mazda Lamps									
048391	114B	048396	114WP	14	56.00	52.00	48.00	44.00	40.00
048392	112B	048397	112WP	12	72.00	68.00	64.00	60.00	56.00

For 50 C. P. Carbon and 75 and 100-watt Type C Pear Shape Mazda Lamps									
048394A	514B	048399A	514WP	14	88.00	80.00	74.00	68.00	64.00

For 200-watt Type C Pear Shape Mazda Lamps and 100-watt Old Style Straight Side Mazda Lamps									
27110	714B	27111	714WP	14	140.00	130.00	120.00	110.00	100.00

For 150-watt Old Style Straight Side Mazda Lamps									
27112	814B	27113	814WP	14	168.00	156.00	144.00	132.00	120.00

For 300, 400 and 500-watt Type C Pear Shape Mazda Lamps Attached to Mogul Sockets									
100834	914B	100835	914WP	14	238.00	216.00	194.00	176.00	160.00

For 750 and 1000-watt Type C Pear Shape Mazda Lamps Attached to Mogul Sockets									
100836	1014B	100837	1014WP	14	290.00	264.00	240.00	220.00	200.00

#### Extra Trap Locks, for Renewal Purposes

048400	16	5.00	4.50	4.10	3.80	3.50
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Collars of guards for brass shell sockets are  $1\frac{1}{4}$  inches, for weatherproof sockets,  $1\frac{1}{2}$  inches.



No. 1 Portable without Key



No. 2 Portable with Key

#### HANDY HOLDFAST PORTABLES

Matthews Holdfast Portable is a combination of a specially designed No. MT14 Holdfast Guard with a hook. It is equipped with an extra strong hardwood handle which completely covers and protects the socket. All contacts can be reached by loosening the set screw on the collar of the No. MT14 Holdfast Lamp Guard. Note that when Matthews Handy Holdfast Portable is lying on the floor that it touches at three points, and for that reason no excessive strain will be put on the guard or the handle if it were accidentally stepped on.

Trade No.	Mfrs. No.	Description	QUANTITY LIST PRICES, PER 100				
			1 to 5	5 to 10	10 to 25	25 to 50	50 or Over
100841	1	Includes lamp guard, keyless socket and handle only	\$370.00	\$350.00	\$280.00	\$260.00	\$250.00
100842	2	Includes lamp guard, push key socket and handle only	390.00	370.00	300.00	280.00	270.00

Nos. 1 and 2 will be furnished with 15 feet or more, of flexible non-kinking rubber covered cord and attachment plug for 30 cents per foot additional to above prices.



# MATTHEWS HOLDFAST SPECIALTIES

## HOLDFAST PORTABLES



Matthews Holdfast Portable is a combination of a specially designed No. 112 Matthews holdfast guard with a hook, a heavy aluminum weatherproof socket and a reinforced hardwood handle. Matthews Holdfast Shade can also be added if specified.

Trade No.	Mfrs. No.	Description	QUANTITY LIST PRICES, PER 100				
			1 to 5	5 to 10	10 to 25	25 to 50	50 or Over
11991	4112	Includes lamp guard, socket and handle only	\$430.00	\$400.00	\$340.00	\$330.00	\$320.00
11992	4112S	Same as above with holdfast shade	490.00	460.00	400.00	390.00	380.00



Holdfast Shade



Holdfast Adjustable Joint

## HOLDFAST SHADES

This is a metal reflector shade for use in connection with Matthews Holdfast Lamp Guards.

Made to Fit Nos. 114B, 114WP, 112B and 112WP Holdfast Lamp Guards Only

Trade No.	QUANTITY LIST PRICES PER 100				
	Less than 50	50 Less than 100	100 Less than 250	250 Less than 500	500 or More
0838	\$90.00	\$80.00	\$72.00	\$66.00	\$62.00

Holdfast shades may be included with order for holdfast lamp guards holdfast adjustables obtain the maximum quantity prices on each specialty.

## HOLDFAST ADJUSTABLES

An adjustable joint which is absolutely universal and will meet every condition around the top where an adjustable fixture is required.

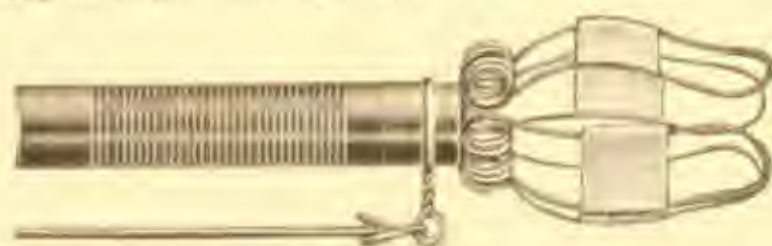
Made to Fit 3/8-inch Standard Iron Pipe or 1/2-inch Rod

Trade No.	QUANTITY LIST PRICES PER 100				
	Less than 50	50 Less than 100	100 Less than 250	250 Less than 500	500 or More
1990	\$80.00	\$75.00	\$70.00	\$65.00	\$60.00

Adjustables may be included with orders for lamp guards and holdfast shades, to obtain the maximum quantity prices on each specialty.

## HOLDFAST LAMP CHANGERS

For removing and replacing lamps in high places.



Trade No.	Mfrs. No.	Description	Price Each
107	1	For 2 and 4 c.p. sign lamps, 1 1/2 to 2 1/2-inch diameter	\$6.50
108	2	For 6, 8, 10 and 16 c.p. lamps and 15 to 60-watt Mazda lamps	6.50
109	3	For 32 to 50 c.p. carbon lamps 60 to 150-watt Mazda lamps and other large and odd shapes up to 5 inches diameter	8.00



## LAMP GUARDS

## LOXON AND GRIPON LAMP GUARDS

Loxon is double duty device that cuts out needless waste by saving incandescent lamps and enabling them to burn their full life. It takes a lock to stop a lamp thief and guard to prevent lamp breakage. Loxon also reduces fire danger from hot or broken lamps. It locks on with a key which you hold.

Gripion has plain screws instead of the locking features and is the same in every other respect.



LOXON



Gripion

## To Fit Non-skirted Base Mazda Lamps

SIZE LAMP		Style Socket	Loxon			Gripion		
Watts	Volts		Trade No.	Mfrs. No.	Price per Doz.	Trade No.	Mfrs. No.	Price per Doz.
25-60	110	Brass	43301	1425	\$6.00	43321	1600	\$4.00
40-60	220	Brass	43302	1426	6.30	43322	1601	4.30
25-60	110	W. P.	43303	*1427A	6.00	43323	*1602A	4.00
25-60	110	W. P.	43304	†1427B	6.00	43324	†1602B	4.00
40-60	220	W. P.	43305	*1428A	6.30	43325	*1603A	4.30
40-60	220	W. P.	43306	†1428B	6.30	73752	†1603B	4.30

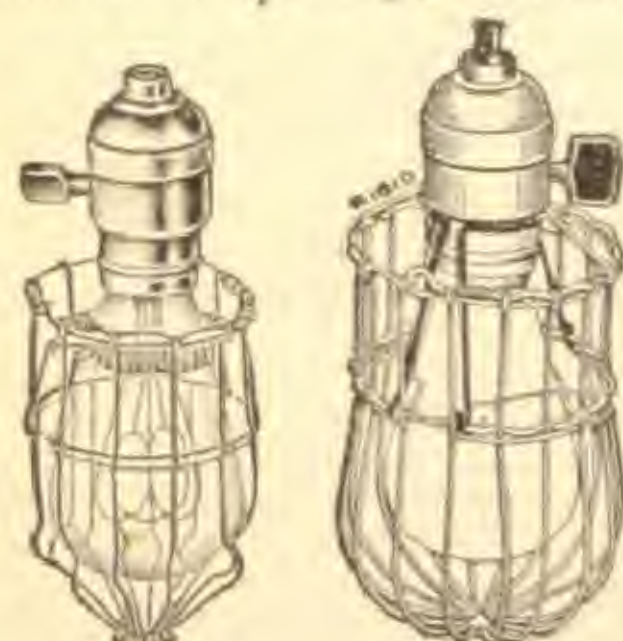
## To Fit Skirted Base Mazda Lamps

75	...	Brass	43318	2443	9.00	73753	1604	7.00
100	...	Brass	43308	2444	10.00	73754	1605	8.00
100	...	W. P.	43314	*2446A	10.00	73755	*1606A	8.00
100	...	W. P.	43315	†2446B	10.00	73756	†1606B	8.00
200	...	Brass	43317	2447	12.50	73757	1607	10.50
200	...	W. P.	43319	*2447A	12.50	73758	*1607A	10.50
200	...	W. P.	43320	†2447B	12.50	73759	†1607B	10.50

\*All numbers followed by A fit the following sockets: Bryant, Nos. 9366, 9448 and 9395 porcelain; No. 43310 mica. Paiste, No. 9366 porcelain. General Electric, No. 9366 porcelain. General Electric, No. 60666 composition new style. Freeman, Nos. 132, 155 and 320 porcelain. P. & S., Nos. 60217 and 116 porcelain. Siemens, No. 43310 composition.

†All numbers followed by B fit the following sockets: Bryant, No. 60666 composition. General Electric, No. 60666 old style. Paiste, No. 60666 composition. P. & S., No. 60666 composition. Freeman, No. 160 porcelain. H. W. J. M., No. 60666 rubber. H. W. J. M., No. 1149 mica or composition. Siemens, No. 60666 composition.

Loxon Guards are made to fit Crouse-Hinds Condulet Receptacles when so specified. One key with every dozen guards. Extra keys, each, 5 cents.



Style A

Style H

## STYLE A LAMP GUARDS

Trade No.	Mfrs. No.	To Fit LAMP		Style Socket	Price per Doz.
		Carbon C. P.	Mazda Watts		
071737	1441	16	25	.....	\$3.00

## STYLE H LAMP GUARDS

021738	1431	16	40	Brass shell	3.40
021739	1433	32	60	Brass shell	3.70
021740	2532	16	40	Weatherproof	3.40
021741	2533	32	60	Weatherproof	3.70

## STYLE O LAMP GUARDS

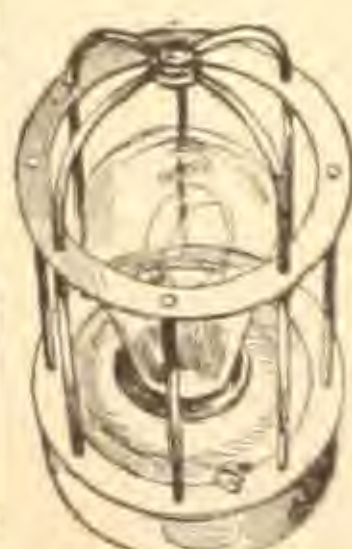
021743	1429	16	40	Brass shell	4.00
021744	1430	32	60	Brass shell	4.40
021745	1432	16	40	Weatherproof	4.00
021746	1434	32	60	Weatherproof	4.40

## WALL LAMP GUARDS

021747	1436	16	40	Style A	14.40
43386	1438	16	40	Style A-1	16.80
021748	1437	16	40	Style B	21.60
43316	1439	16	40	Style C	14.40



Style O



Wall Guard

Style A fits 3-inch round outlet boxes; Style A-1 fits 4-inch round outlet boxes; Style B has removable base ring.

Style C is fitted with outlet box cover and fits 3 and 4-inch boxes.



## PORTABLE LAMP GUARDS

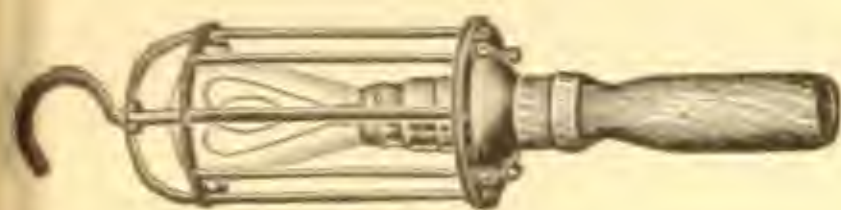


Thumb Switch Type

### NEW THUMB SWITCH TYPE

The best all around guard for the private and public garage, basements, etc. Has non-breakable lever socket for one hand operation.

Trade No.	Mfrs. No.	To Fit Lamp Watts	Price Each
59942	2003	25 or 50	\$2.80

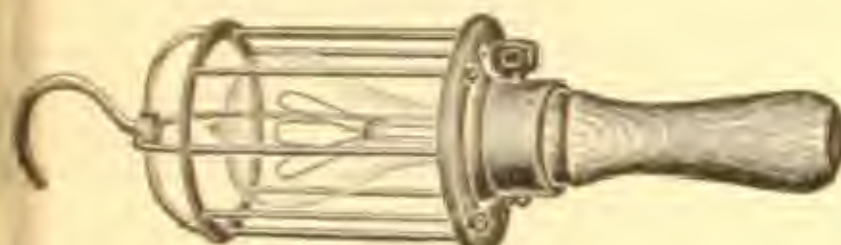


Crescent

### CRESCENT

A very strong and convenient portable, made of Bessemer steel, copper-plated. Takes any 3/8-inch standard brass socket, but is furnished without socket.

Trade No.	Mfrs. No.	To Fit Lamp Watts	Style Socket	Price Each
021751	4645	40	Keyless	\$2.50
021752	4676	60	Keyless	2.50



Bulldog

### BULLDOG

Furnished with key or keyless socket, securely embedded in handle, giving a firm, rigid base.

021749	4675	60	Key	3.50
021750	2590	60	Keyless	3.50

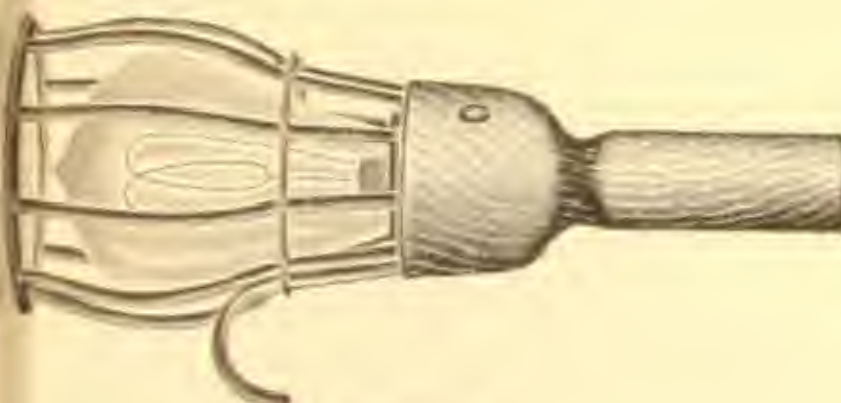


Dreadnaught

### DREADNAUGHT

A very strong portable guard made of Bessemer steel, built to withstand hard usage. Has a porcelain keyless socket fitted with spring contact firmly embedded in handle. Metal part copper-plated finish.

59937	4000	60	Keyless	3.50
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National

### NATIONAL

A solid one-piece portable of unusual strength. The convenient open end allows easy lamp change. Made of steel heavily tinned and has porcelain keyless socket.

021755	1451	40	Weatherproof	2.50
021756	1452	60	Weatherproof	2.50

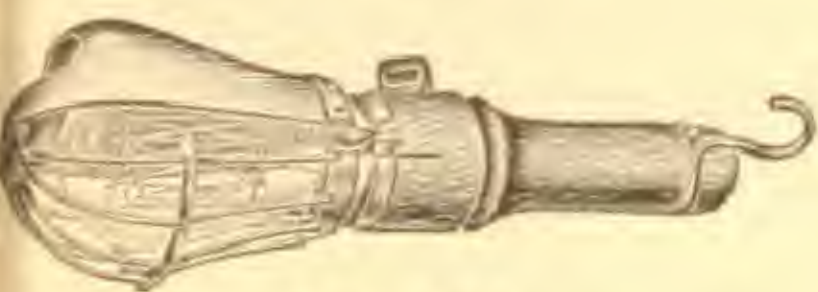


Safety Vapor-proof

### SAFETY VAPOR-PROOF

Designed to meet the requirements of the garage or wherever gases or inflammable materials may be used. Has heavy steel frame, strong handle, handy grip hook and vapor-proof receptacle. Heavily tinned finish.

59938	3001	25	Vapor-proof	5.00
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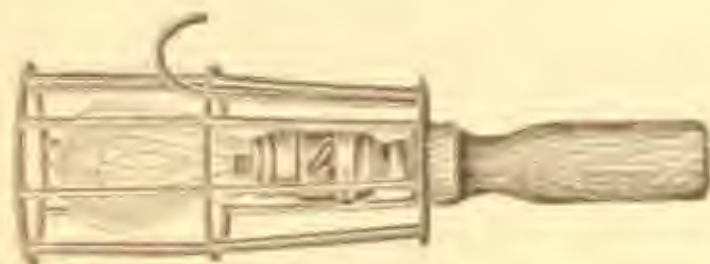


Cable Rack

### CABLE RACK

A very handsome portable with black enamel handle. The cage portion is half guard and half reflector so as to direct the reflected light where it is needed. Handle is equipped with a hook. Designed principally for use around telephone switchboards. Furnished with key or keyless socket securely embedded in handle, giving a firm and rigid base. Cage and reflector portion heavily tinned finish. Takes a 60-watt, 110-volt Mazda lamp.

59939	2000	60	Key	2.80
59940	2001	60	Keyless	2.80



Monitor

### MONITOR

A low priced guard furnished without socket.

41853	1453	40		1.70
41854	1454	60		1.80



Crescent Tubular

### CRESCENT TUBULAR

A slender portable for use behind switchboard, examining boilers, among machine parts, for garages, automobiles, and places where space is limited. Extreme diameter, only 2 inches. Length with hook, 13 inches.

59941	2598	25	Keyless	3.50
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## HUBBELL LAMP GUARDS



No. 5485



No. 5573



No. 5534



No. 5685



No. 5691



No. 6650

Hubbell Lamp Guards are the only electrically welded guards. No solder or tie wires are used.

## Flaring Bottom Type

Trade No.	Mfrs. No.	Size Watts	Std. Pkg.	Wt., Lbs. Std. Pkg.	Car- ton	Price per 100
047851	5485	15, 25, 40, 60	150	45	15	\$31.50
047852	5487	75 Type C	150	55	15	40.00

## ENCLOSED BOTTOM TYPE

047853	5573	15, 25, 40, 60	150	60	15	36.00
047854	5578	75 Type C	150	85	15	44.00
076674	5766	15, 25, 40, 60	150	65	15	51.00

No. 5766 has half reflector attached.

## TUBULAR GUARDS

The lamp is inserted into closed bottom and tubular guards by unscrewing the guard from the metal top.

047855	5634	25	60	20	15	38.00
--------	------	----	----	----	----	-------

All the above guards fasten rigidly to the socket shell by means of the clamping ring and do not require a shade holder.

## GUARDS FOR HUBBELL REFLECTORS

The threaded neck of these guards is made sufficiently large to engage the threaded neck of reflector.

## Flaring Bottom Type

047856	5534	15, 25, 40, 60	150	48	15	23.50
--------	------	----------------	-----	----	----	-------

## Enclosed Bottom Type

047858	5632	15, 25, 40, 60	150	55	15	40.00
--------	------	----------------	-----	----	----	-------

Above prices do not include reflectors.

## LOCKING LAMP GUARDS

## Enclosed Bottom Type

Locking guards fasten directly to brass shell of socket without shade holder or clamping ring. They grip the socket securely and guard the lamp against breakage and theft.

## For Standard Sockets

047860	5685	15, 25, 40, 60	150	60	15	45.00
--------	------	----------------	-----	----	----	-------

047861	5635	75 Type C	150	85	15	58.00
--------	------	-----------	-----	----	----	-------

076677	5762	{ 100 Type B 100, 200 Type C }	75	70	15	76.00
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## For Weatherproof Sockets

076675	5730	15, 25, 40, 60	150	60	15	43.75
--------	------	----------------	-----	----	----	-------

076676	5731	75 Type C	150	85	15	59.00
--------	------	-----------	-----	----	----	-------

029112	5820	{ 100 Type B 100, 200 Type C }	75	70	15	72.80
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## For Weatherproof Sockets No. 60666

029113	5810	15, 25, 40, 60	150	60	15	47.00
--------	------	----------------	-----	----	----	-------

029114	5818	75 Type C	150	85	15	58.00
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## With Half Reflectors for Standard Sockets

076678	5764	15, 25, 40, 60	150	65	15	63.00
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## With Half Reflectors for Weatherproof Sockets

076679	5765	15, 25, 40, 60	150	65	15	63.00
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## For 150 and 250-watt Lamps, for Standard Sockets

029115	6410		60	120		123.00
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## For 150 and 250-watt Lamps, for Weatherproof Sockets

029116	6411		60	120		129.00
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One key is furnished with each carton of guards. Extra keys, 5 cents each, net.

## ALL-WIRE GUARDS

## For Brass Shell Sockets

047862	5691	15, 25, 40, 60	150	40	..	25.50
--------	------	----------------	-----	----	----	-------

047863	5692	75 Type C	150	50	..	32.25
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## For Weatherproof Sockets

047864	5693	15, 25, 40, 60	150	40	..	27.50
--------	------	----------------	-----	----	----	-------

047865	5694	75 Type C	150	50	..	32.25
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## REFLECTOR GUARDS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Car- ton	Price Each
-----------	-----------	-------------	-----------	----------	------------

180953	6650	For 6½-in. reflector.....	150	15	\$0.55
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180954	6651	For 7-in. reflector.....	150	15	.65
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180955	6652	For 8-in. reflector.....	150	15	.75
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180956	6653	For 10-in. reflector.....	150	15	.85
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Additional keys, 5 cents extra, net.



## OAMCO REFLECTORS



Nos. 508-508D



Nos. 659-659C



Nos. 507A-507C



Nos. 661-661B



Nos. 547A-547C



Nos. 660-660B



No. 584



No. 514

### PAINT ENAMELED TIN REFLECTORS

#### Green Outside with White Enameled Reflecting Surface

These reflectors are coated with a superior hard enamel that is very lasting. The reflecting qualities are efficient. The enamel can be easily cleaned with soap and water.

#### FLAT CONE FOR WIDE LIGHT DISTRIBUTION

For use on railroad platforms, mills, machine shops and warehouses.

#### Nos. 508-508D

Made with collars for standard holders.

Trade No.	Mfrs. No.	Diam. In.	For Holder In.	Lamp Size Watts	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
054606	508	8	2 1/4	20-25	100	27	\$16.20
054607	508A	10	2 1/4	25-40	100	45	22.00
054608	508B	12	2 1/4	40-60	100	68	43.00
054609	508C	14	2 1/4	100	60	50	50.50
054610	508D	16	3 1/4	150-200	60	66	62.00

#### Nos. 659-659C

Reflector has attached a spring grip and collar holder which fits standard medium brass shell sockets.

054638	659	8	...	20-25	100	26	31.00
054639	659A	10	...	25-40	100	36	38.00
054640	659B	12	...	40-60	100	68	55.00
054641	659C	14	...	100	60	53	73.00

#### SHALLOW CONE FOR DISTRIBUTION BELOW THE HORIZONTAL

#### Nos. 507A-507C

Made with collars for standard holder.

054615	507A	8	2 1/4	20-25	100	30	24.00
054616	507B	10	2 1/4	25-40	100	45	30.00
054617	507C	12	2 1/4	40-60	100	70	48.00

#### Nos. 661-661B

Reflector has attached a spring grip and collar holder which fits standard medium brass shell sockets.

102390	661	8	...	20-25	100	26	35.00
102391	661A	10	...	25-40	100	40	43.00
102392	661B	12	...	40-60	100	50	60.00

#### DEEP CONE FOR EXTENSIVE DISTRIBUTION

For local light distribution over machines, work benches, tables, office use, etc.

#### Nos. 547A-547C

Made with collars for standard holders.

054619	547A	8	2 1/4	25	100	27	23.30
054620	547B	10	2 1/4	25-40	100	45	27.20
054621	547C	12	2 1/4	40-60	100	60	55.00

#### Nos. 660-660B

Reflector has attached a spring grip and collar holder which fits standard medium brass shell sockets.

102395	660	8	...	25	100	32	37.00
102396	660A	10	...	25-40	100	45	41.00
102397	660B	12	...	40-60	100	67	71.00

### HALF REFLECTORS

No. 584 is made of steel finished green outside with white reflecting surface. Made with attached spring grip and collar holder which fits standard medium brass shell sockets.

No. 514 is made of steel, finished green outside, white inside. With collar for regular standard 2 1/4-inch holder.

Trade No.	Mfrs. No.	Length Inches	Lamp Size Watts	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
054631	584	6	25-40	50	13	\$36.00
054630	514	...	25-40	100	21	21.00



## HUBBELL REFLECTORS

## SCHEDULE C

HALF REFLECTORS  
FOR 10 AND 15-WATT LAMPS

No. 6151

No. 5429

Trade No.	Mfrs. No.	FINISH		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
		Outside	Inside				
89717	6151	Green	White	1	50	20	\$0.45
89718	6152	Old brass	Frosted alum.	1	50	20	.85

## FOR 25, 40 AND 60-WATT LAMPS



Nos. 5564, 5571 and 5461

Trade No.	Mfrs. No.	FINISH		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
		Outside	Inside				
084284	5429	Green	White	1	50	20	.50
084289	5532	Old brass	Frosted alum.	1	50	20	1.00

Special finished same advance as regular holders.

## PARABOLA REFLECTORS

6 1/2-INCH DIAMETER, FOR 25, 40 AND 60-WATT LAMPS  
WITH HOLDER AT SIDE

Nos. 6094, 6548 and 6549

Trade No.	Mfrs. No.	FINISH		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
		Outside	Inside				
084297	5564	Green	Frosted	1	50	40	\$0.90
084299	5571	Br. brass	Frosted	1	50	40	1.15
084294	5461	Green	Frosted	1	50	30	1.20

## WITH HOLDER AT TOP



Nos. 6550, 6551 and 6552

Trade No.	Mfrs. No.	FINISH		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
		Outside	Inside				
66965	6094	Green	Frosted	1	30	35	.90
66956	6548	Br. brass	Frosted	1	30	40	1.15
039396	6549	Green	Frosted	1	30	30	1.20

## WITH HOLDER AT 30-DEGREE ANGLE



No. 5432

Trade No.	Mfrs. No.	FINISH		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
		Outside	Inside				
47122	6550	Green	Frosted	1	30	35	.90
47123	6551	Br. brass	Frosted	1	30	40	1.15
47124	6552	Green	Frosted	1	30	30	1.20

Brass reflectors can be had in any desired special finish. Prices upon application. White interior furnished without extra charge. Aluminum reflectors cannot be furnished in a plated finish. If reflectors are desired for weatherproof sockets, place the letter P after the Mfrs. No. and add 15 cents to list price.



No. 5441



No. 6752



No. 6761

## PAINT ENAMELED REFLECTORS

## Green Outside, White Inside

## Flat

Trade No.	Mfrs. No.	Diam. Inches	For Mazda		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
			Lamps Watts					
039368	5431	8	15-25		10	100	40	\$44.00
039369	5432	10	25-40		10	100	56	49.00
039370	5433	12	40-60		10	100	80	70.00
039386	5440	8	15-25	Deep Cone	10	100	58	46.00
039387	5441	10	25-40		10	100	80	58.00
039388	5442	12	40-60		10	100	115	100.00

## FOR WEATHERPROOF SOCKETS

## Flat

Trade No.	Mfrs. No.	Diam. Inches	For Mazda		Car- ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
			Lamps Watts					
196551	6751	8	15-25		5	100	40	59.00
196552	6752	10	25-40		5	100	56	64.00
196553	6753	12	40-60		5	100	80	85.00
196554	6760	8	15-25	Deep Cone	5	100	58	61.00
196555	6761	10	25-40		5	100	80	73.00
196556	6762	12	40-60		5	100	115	115.00

The above reflectors can be furnished frosted aluminum inside, instead of white, at the same price.



# BENJAMIN ILLUMINATION DATA

## HOW TO MAKE LIGHTING CALCULATIONS

### FOR BENJAMIN REFLECTOR SOCKETS AND REFLECTOR UNITS

A few minutes of study of the following tables and charts will enable any one to solve quickly and with a reasonable degree of accuracy, any ordinary illumination problem. General lighting is recommended in preference to individual machine or bench lighting. Therefore, general lighting only is considered here.

#### Selecting the Type of Reflector

Each type of Benjamin Reflector has a character of distribution which makes it more suitable to certain applications. Their uses are briefly set forth as follows:

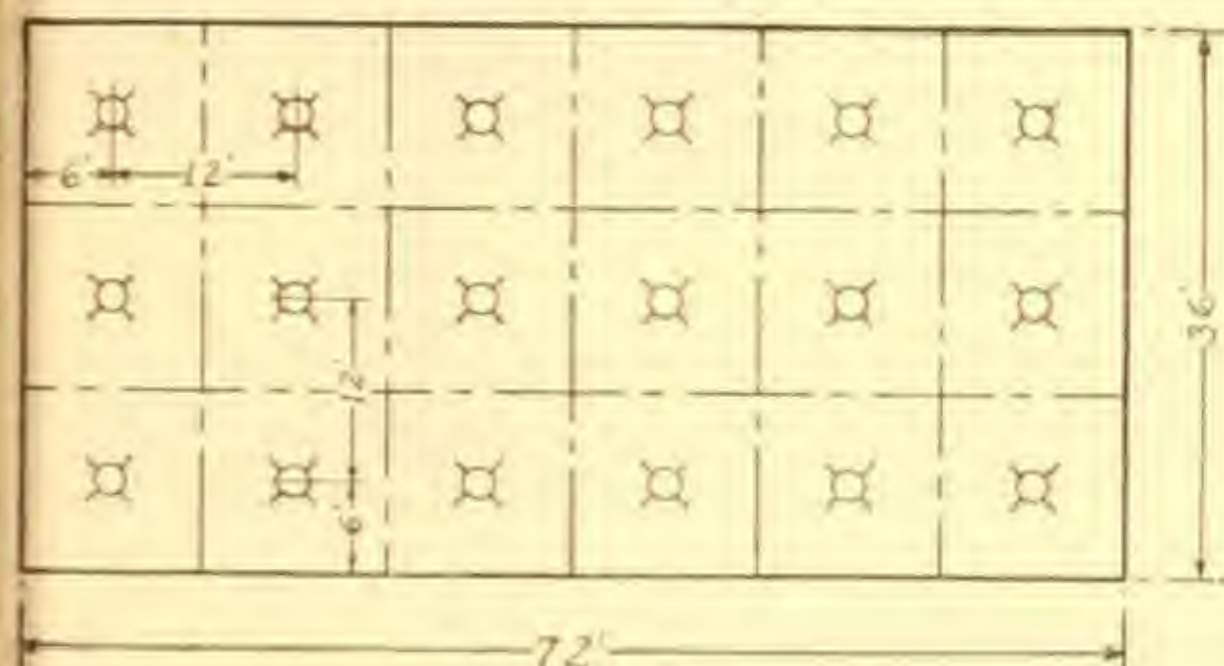
**R. L. M. DOME.**—The standard adopted by the reflector and lamp manufacturers for general lighting. This reflector meets the requirements of the state lighting codes. It is suitable for mounting heights of approximately 8 to 18 feet. Angle of cut-off,  $17\frac{1}{2}$  degrees.

**BOWL.**—Has a greater angle of cut-off than the Dome and therefore offers more eyeshield. It is used for this advantage in places where an almost entire elimination of shadow is not essential and where the lighting of vertical surfaces is not required. The Bowl Reflector also serves where it is found necessary to light an individual machine or bench.

**FLATBED BOWL.**—The only type of porcelain enameled steel reflector having a concentrated distribution. It is therefore used for high mounting, i.e., 18 feet and upward.

**ELLIPTICAL ANGLE.**—Used in mills where traveling cranes or moving machinery preclude the use of overhead lighting and make it necessary to light certain areas from the sides.

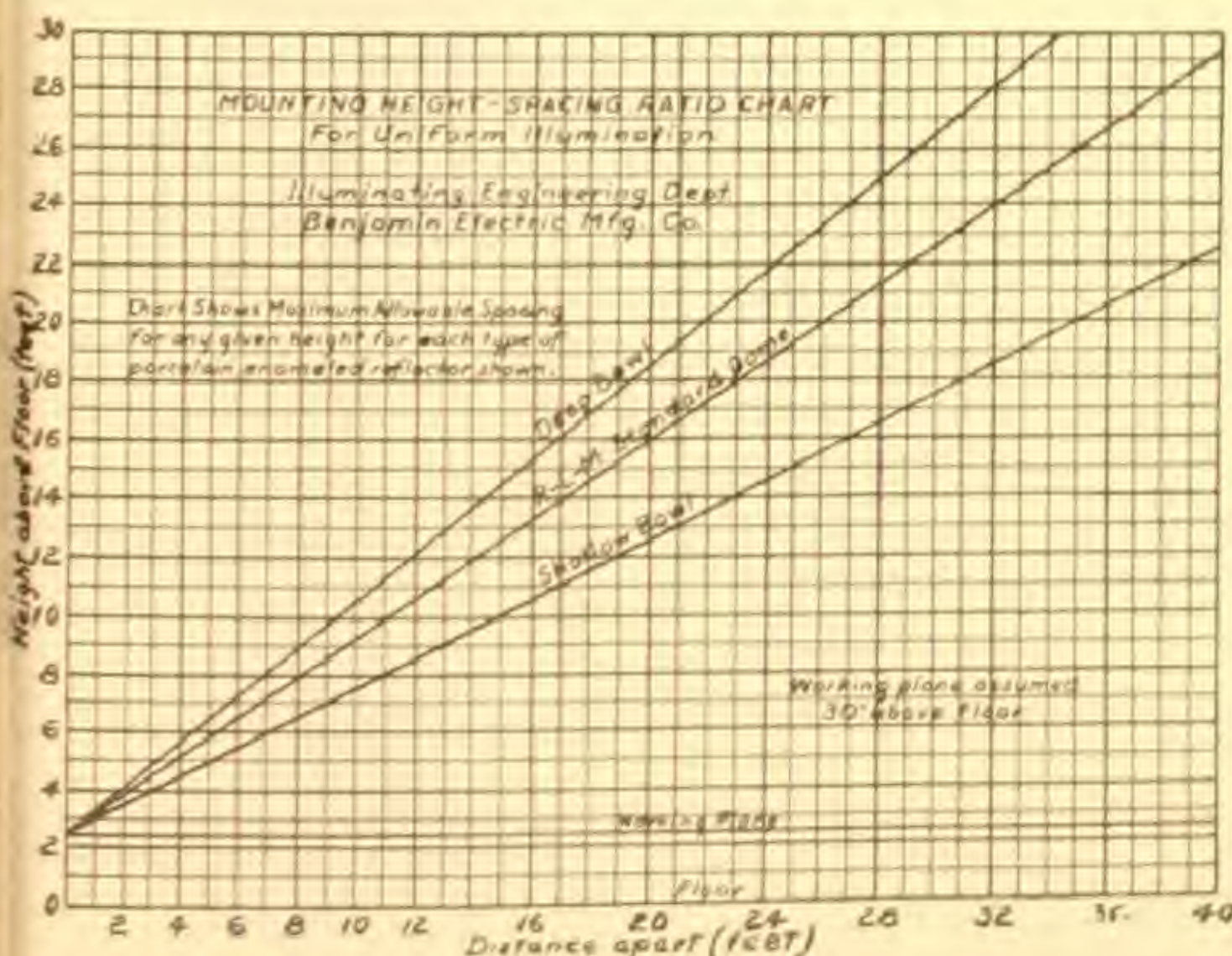
#### The Number of Lighting Units



For illustration, we have a room 30x72 feet and will use the R. L. M. Reflector. We will assume a mounting height of  $10\frac{1}{2}$  feet (this is usually governed by the height of the ceiling). Reference to Chart D gives us a spacing distance, on the R. L. M. Reflector of 12 feet for this mounting height. The next step is to divide the area to be lighted, into equal parts, 12 feet square and locate one unit in the center of each division. This relationship of mounting height and spacing distance will give uniform illumination over the entire area.

In case the overhead construction of the building does not lend itself easily to this layout, it is possible to divide the area to correspond to the bays of the overhead construction. If this is done, it must be borne in mind that the spacing distance for a given mounting height should not be greater than the ratio given in Chart D and that a large number of small units is preferable to a small number of large units.

#### METHOD OF USING CHART D



Each of the diagonal lines drawn across Chart D represents one of the three chief types of Benjamin Reflectors. The distance between reflectors when they are properly installed is in constant proportion to the mounting height. This ratio is the same for all reflectors of any one type but the ratio of each type is different from that of the others. Chart D is designed to show the proper mounting height for reflectors when the outlets are already in place and the spacing is therefore known.

For instance, if the distance between outlets is 16 feet and the R. L. M. Standard Dome Reflector is to be used, first find the intersection of the vertical line extending from 16 feet on the scale at the bottom of the chart and the diagonal line representing the R. L. M. Standard Dome. The horizontal line which crosses at this intersection runs to  $13\frac{1}{2}$  on the scale at the left which is therefore the proper mounting height.

Where the installation is

entirely new, the chart can be used in a similar manner, to find the proper spacing based on a desired mounting height.



## BENJAMIN ILLUMINATION DATA

### HOW TO MAKE LIGHTING CALCULATIONS

#### FOR BENJAMIN REFLECTOR SOCKETS AND REFLECTOR UNITS

#### The Proper Intensity of Light

The unit of intensity is the foot candle. For convenience a table is set forth below which is intended as a guide. Where low and high intensities are recommended for one industry it should be understood that the low intensity is for rough work and the high intensity for the finer operations.

Industry	Foot Candles	Industry	Foot Candles
Warehouses and wharves	3	Leather Manufacturing and Working	
Baths (public) and depots	3 to 4	Finishing, scraping	10
Bowling Alleys	3 to 5	Other operations	6 to 8
Automobile garage, armory, locker, toilet and wash rooms, packing and shipping, stock rooms	4	Silk Mills, Glove Manufacturing	6 to 12
Soap Manufacturing	5 to 6	Sheet Metal Working	
Box Making, wood working, (rough)		Fine bench work	12
Gymnasiums, meat packing	5 to 8	Ordinary bench work	6
Paper Manufacturing, paint shops	5 to 10	Woolen Mills	6 to 15
Clothing, Cloaks, Suits, etc.		Machine Shops	
Inspection, Machine Sewing	15	Die Making, fine bench work	15
Cutting, Pressing	10	Fine lathe work, inspecting	10
Candy Making, canning	8	Buffers, drills, grinder, shapers, planers	
Foundries	6 to 10	Ordinary lathe work	8
Cotton Mills		Saws	6
Inspecting	12	Fine wood working	10
Other operations	4 to 8	Shoe Manufacturing	
Bakeries, electric plating and electrotyping, laundries and dry cleaning, paper box manufacturing, forge shops	8	Hand turning, ordinary machine work	8
Book Making	6 to 10	Other operations	10
Drafting Rooms, Engraving	10	Pattern shops, billboards, courts (tennis, handball, etc.)	8
		Printing	
		Linotype	15
		Composing stone, typesetting	10
		Other operations	8

#### The Proper Lamp Size

We will suppose that the room we are considering is the buffing and grinding room of the machine shop. By referring to the Table of Intensities, it is found that this class of work requires an intensity of 8 foot candles. In the room layout on the previous page the area of each division to be lighted by a unit is 144 square feet. Next referring to Chart C, locate the intersection of a line opposite 150 square feet (this figure taken for convenience in place of 144) and the line above the figure 8 (foot candles.) This intersection is seen to be near the curved line representing the 150-watt lamp, which is the size to adopt in this case.

#### METHOD OF USING CHART C

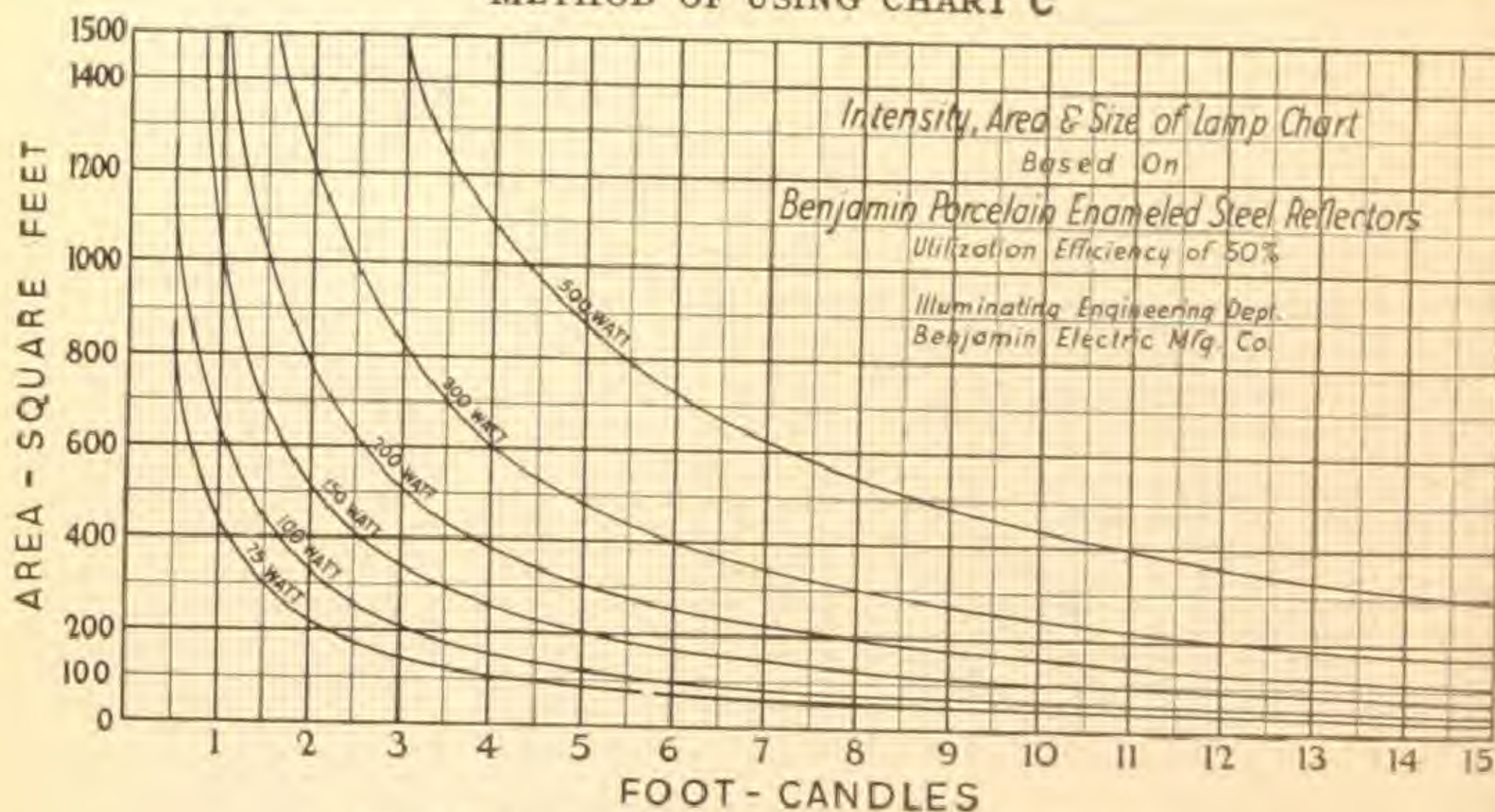


Chart C—Area, Intensity and Size of Lamp Guide

**TO FIND AREA.**—For instance, in designing a lighting system, it may be decided to use a 200-watt Mazda C lamp and obtain an intensity of 3 foot candles. By following the lines carrying these respective quantities to their intersection, the area which this lamp will cover at this intensity is shown as 500 square feet.

**TO FIND INTENSITY.**—If it is desired to light 400 square feet with 200-watt lamps and the query is, what intensity will result? The answer shown by the chart is  $3\frac{1}{4}$ .

**TO FIND SIZE OF LAMP.**—Suppose we wish to obtain 11 foot candles of intensity over an area of 400 square feet. What size of lamp shall be used? Looking at the chart we find that the perpendicular line above 11 foot candles intersects the horizontal line opposite 400 square feet at the curve of the 500-watt lamp.



## BENJAMIN REFLECTOR SOCKETS

### WITH X TYPE FITTING

There are several unusual features connected with Benjamin Reflector Sockets. First the reflector, next the X Type Fitting, then the easy-to-wire socket.

The reflector is unusual in that it is a deep drawing from one piece of steel. Every operation in producing this reflector is performed in the Benjamin factory and out of material made to Benjamin specifications. Some of the reflector shapes require as many as fourteen operations on large drawing presses, several of which require rare skill and years of experience to perform.



One Piece Reflector

### ONE PIECE SEAMLESS REFLECTORS

These reflectors contribute to making Benjamin Reflector Sockets weatherproof and as nearly corrosion proof as commercial lighting apparatus can be made. As they are without welds or joints each reflector presents, when finished in porcelain enamel, a continuous and durable surface to any influences that tend to rust or corrode.

### X TYPE FITTINGS

This fitting is separable. It consists of two flanges and two protecting washers, one for either side of the reflector.

Through the use of the X Type Fitting, the lamp and all electrical parts are supported directly by the stem. The use of this connection accomplishes several things, among which is the fact that all strain is taken off the reflector except that due to the stress of wind and weather. The reflector can serve wholly as an illuminating, protecting and reflecting unit.



X Type Fitting

### TWO-PIECE EASY-TO-WIRE SOCKETS

This socket is the two-piece easy-to-wire design.

When the upper flange is brought firmly into place on the upper washer it forms a water proof joint between the stem and the reflector, while the latter is held rigidly in position.

It is National Electrical Code Standard and has a Benjamin Lamp Grip which prevents lamps from jarring loose and falling.

Reflector sockets and units listed on the following pages are equipped with medium socket No. 4651, or Mogul Socket No. 4657 as indicated.

A two-piece Medium base locking socket No. 86 will be substituted if desired for No. 4651 at an advance in list price of 40 cents—keys at 1.00 each list.



Easy-to-Wire Socket



## BENJAMIN REFLECTOR SOCKETS

## PORCELAIN ENAMELED STEEL



No. 5642

## SPECIFICATIONS

**REFLECTOR.**—One-piece porcelain enameled steel reflector with no metal edges exposed to the influences of corrosion.

**SOCKET.**—National Electrical Code Standard. Socket is two-piece porcelain, Benjamin easy-to-wire type with Benjamin Lamp grip, which prevents loosening and falling of lamp under vibration. For assembly of socket see another page.

**FITTING.**—Extra heavy X Type separable fitting shown and described on another page.

**TAPPING.**—Fixture regularly includes fitting tapped for  $\frac{1}{2}$ -inch iron pipe stem. Fitting tapped  $\frac{3}{4}$ -inch, or  $\frac{1}{2}$ -inch insulated bushing for attaching lamp cord, may be ordered without advance in price.

**FINISH.**—Outside of reflector is green; inside is white porcelain enamel.

Locking Type Socket No. 86, will be supplied with reflectors at an advance of 60 cents over prices below. Keys at \$1.50 each, Mfrs. No. 1399.

Pull chain socket with lamp grip No. 4664 will be supplied with reflectors up to and including 200 watt size at an advance of \$1.20 list.

Characteristic  
Distribution Curve

No. X6189

## DOME REFLECTOR SOCKETS

## Reflector and Lamp Manufacturers' (R-L-M)—Standard

Trade No.	Mfrs. No.	Size of Lamp Watts	Dimens., In. Diam. Height	Std. Pkg.	Wt. Lbs.	Price Each
120506	5640	50	12 7	10	2 $\frac{1}{4}$	\$3.94
135768	5641	75	12 8	10	2 $\frac{3}{8}$	3.94
135769	5642	100, 150	14 9 $\frac{1}{4}$	10	3 $\frac{1}{4}$	4.28
135770	5643	200	16 10 $\frac{3}{8}$	10	3 $\frac{5}{8}$	5.18
135771	5644	300, 500	18 12	10	4 $\frac{1}{4}$	6.41
135772	5645	750, 1000	20 15	10	5 $\frac{5}{8}$	8.66

## BOWL REFLECTOR SOCKETS

Characteristic  
Distribution Curve

Trade No.	Mfrs. No.	Size of Lamp Watts	Dimens., In. Diam. Height	Std. Pkg.	Wt. Lbs.	Price Each
27416	X6166	40, 50, 60	7 7 $\frac{3}{8}$	10	1 $\frac{5}{8}$	\$3.26
120345	X6161	75	8 $\frac{1}{4}$ 8 $\frac{3}{4}$	10	1 $\frac{7}{8}$	3.49
120507	X6189	100, 150	9 9 $\frac{1}{2}$	10	2	3.71
120508	X6169	200	10 10 $\frac{5}{8}$	10	2 $\frac{1}{2}$	4.28
120509	X6173	300, 500	12 12	10	3 $\frac{1}{4}$	5.29

Prices do not include wires or lamps.



## BENJAMIN REFLECTOR SOCKETS

PORCELAIN ENAMELED STEEL

### SPECIFICATIONS



No. X5423

**REFLECTOR.**—One-piece porcelain enameled steel reflector with a continuous, smooth surface of porcelain-enamel opposed to the influences of corrosion.

**SOCKET.**—National Electrical Code Standard. Socket is two-piece porcelain, easy-to-wire type with lamp grip, which prevents loosening and falling of lamp under vibration. For assembly of socket, see another page.

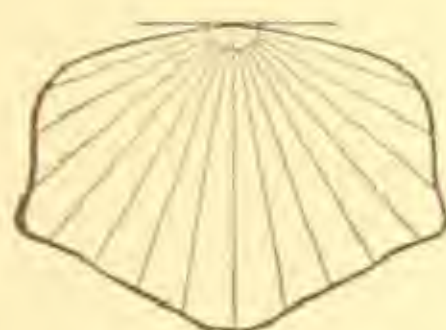
**FITTING.**—Extra heavy X type separable fitting shown on another page.

**TAPPING.**—Fixture regularly includes fitting tapped for  $\frac{1}{2}$ -inch iron pipe stem. Fitting tapped  $\frac{3}{4}$ -inch or insulated bushing ( $\frac{1}{2}$ -inch opening) for attaching lamp cord, may be ordered without advance in price.

**FINISH.**—Outside of reflector is green; inside is white porcelain enamel.

Locking Type Socket No. 86 will be supplied with reflectors up to and including 200 watt size at an advance of 60 cents each over prices given. Keys at \$1.50 each, list No. 1399.

Pull chain socket with lamp grip No. 4664, will be supplied with reflectors up to and including 200 watt size at an advance of \$1.20 each over prices above.



Characteristic  
Distribution Curve

### SHALLOW BOWL REFLECTOR SOCKETS



No. X5402

Trade No.	Mfrs. No.	Size of Lamps Watts	DIMENS., IN. Diam. Height	Std. Wt. Pkg. Lbs.	Price Each
042261	X5437	25, 40, 50, 60	12 6 $\frac{3}{8}$	10 2 $\frac{1}{4}$	\$3.71
120344	X5421	75	12 7 $\frac{1}{2}$	10 2 $\frac{1}{4}$	3.94
120351	X5423	100, 150	14 8 $\frac{1}{2}$	10 2 $\frac{3}{4}$	4.28
120352	X5425	200	16 9 $\frac{3}{4}$	10 3 $\frac{1}{4}$	5.18
047273	X5509	300, 500	18 10 $\frac{3}{4}$	10 3 $\frac{3}{8}$	6.41

### FLAT CONE REFLECTOR SOCKETS



Characteristic  
Distribution Curve

Trade No.	Mfrs. No.	Size of Lamps Watts	DIMENS., IN. Diam. Height	Std. Wt. Pkg. Lbs.	Price Each
047260	X5431	25, 40, 50, 60	14 5	10 2 $\frac{3}{8}$	\$3.71
120343	X5401	75	14 5 $\frac{7}{8}$	10 2 $\frac{1}{2}$	3.94
047263	X5402	100, 150	16 6 $\frac{5}{8}$	10 3 $\frac{1}{8}$	4.28
047264	X5403	200	18 7 $\frac{3}{4}$	10 3 $\frac{3}{4}$	5.18

Prices do not include wires or lamps.



# BENJAMIN ELLIPTICAL ANGLE REFLECTORS

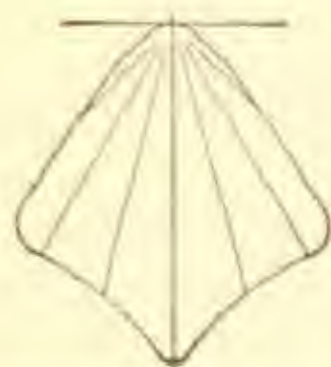
## PORCELAIN ENAMELED STEEL



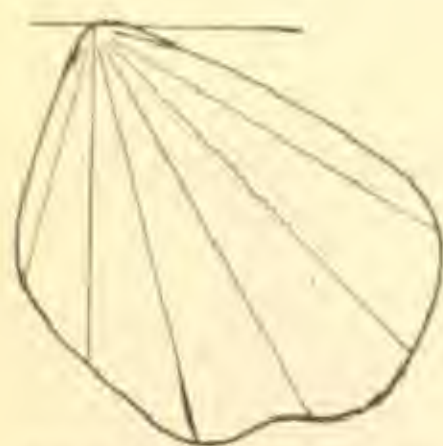
Elliptical Angle Reflector  
No. 5525 Side View



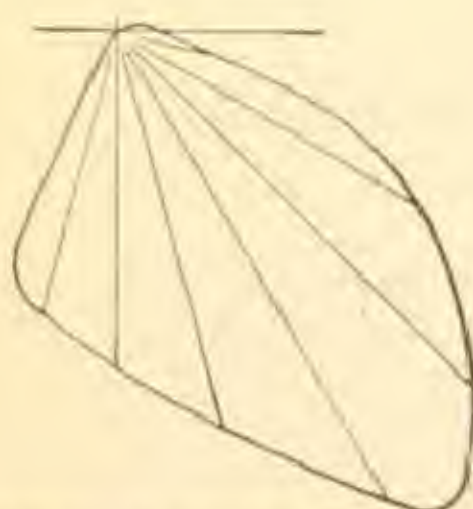
No. 5525 Front View



Characteristic Curve



Characteristic Curve  
Directly in Front of Unit



Characteristic Curve at  
40 degrees with Plane  
perpendicular to Wall

Elliptical angle reflectors are particularly applicable to the lighting of large open areas; outdoors—for tennis courts, athletic fields, bathing beaches, sign and billboards; indoors for foundries, erecting shops, large mills of various kinds or for any condition where it is not possible or desirable to hang the lighting unit directly over the area or work to be lighted. They are even found practical on the farm for lighting signs on the sides of barns situated near the well-traveled roads.

The development of the elliptical angle reflector has proceeded with one end in mind—an even distribution of light from an angular position over certain vertical and horizontal areas. Reference to the diagram shows that the candle power values are the best ever produced with a porcelain angle reflector unit. Maximum is at 35 degrees vertical and 40 degrees horizontal angles—not directly in front, but at the side. Illumination is thus built up at a point heretofore weak, midway between units. Lamps should hang vertical.

### SPECIFICATIONS

**REFLECTOR.**—Porcelain enameled steel elliptical angle reflector.

**SOCKET.**—National Electrical Code Standard. Socket is two-piece porcelain, Benjamin easy-to-wire with lamp grip, which prevents loosening and falling of lamp under vibration. For assembly of socket see another page.

**FITTING.**—Extra heavy X type fitting.

**TAPPING.**—Fixture regularly includes fitting tapped for 1/2-inch iron pipe stem. For fitting tapped 3/4-inch, no additional charge will be made; for fitting tapped 1-inch or 1 1/4-inch, add 30 cents to list price.

**FINISH.**—Outside, black; inside, white porcelain enamel.

Trade No.	Mfrs. No.	SIZE OF REFLECTOR, IN. Height	Diam.	Lamp Size Watts	Std. Pkg.	Wt. Lbs.	Price Each
27437	5522	12 3/8	8 1/2 x 13 1/2	60, 75	10	2 3/4	\$4.73
27434	5525	13 1/4	8 1/2 x 13 1/2	100, 150	10	3	4.73
61766	5526	15 5/8	10 3/4 x 15	200	10	3 3/8	6.75
120347	5537	18 3/4	14 x 20	300, 500	10	3 3/4	9.79
120348	5538	20 1/2	14 x 20	750, 1000	10	4 1/8	10.13

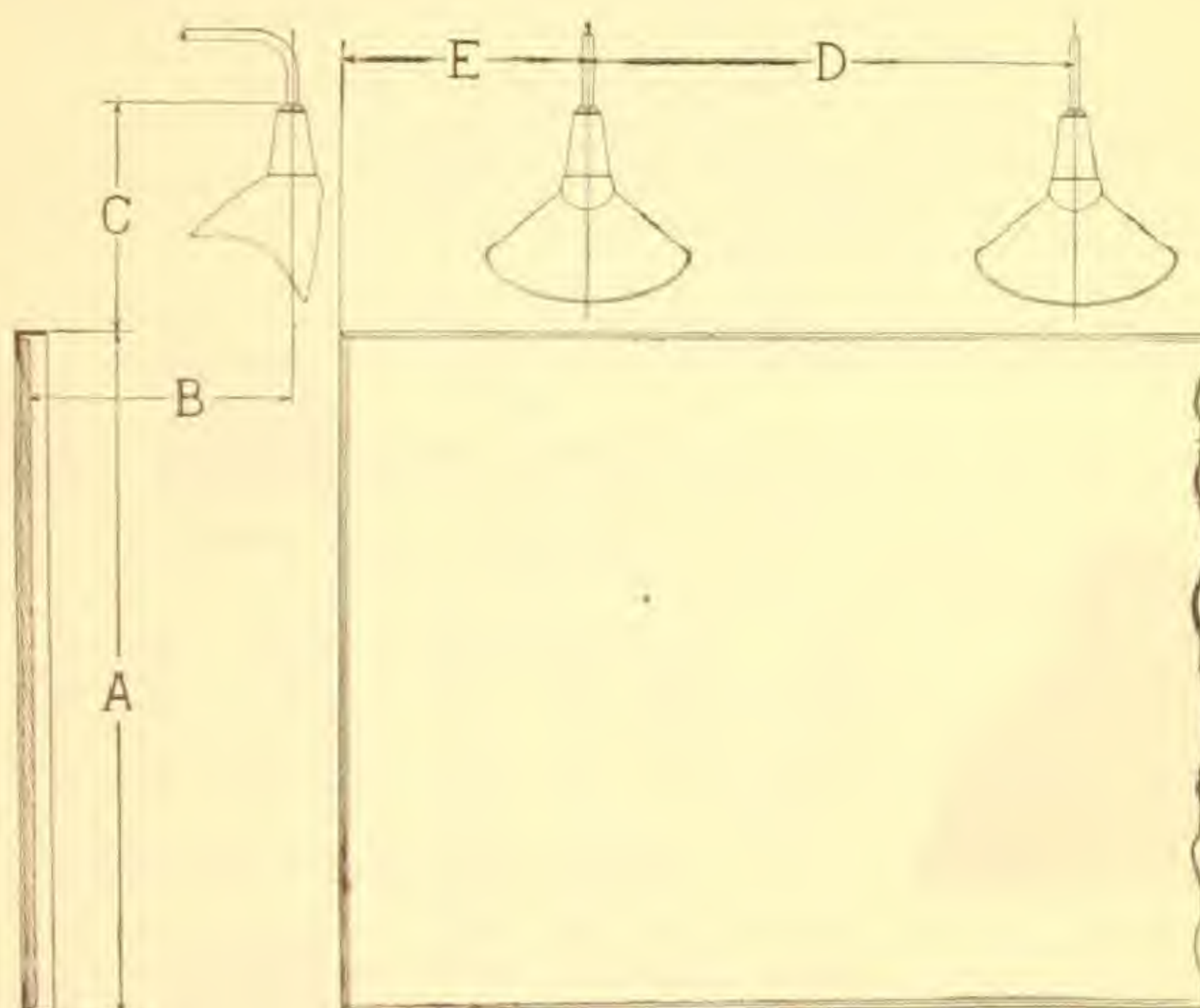
Prices are less wires and lamps.



## BENJAMIN ELLIPTICAL ANGLE REFLECTORS

### SPACING DATA FOR SIGN, BILL AND BULLETIN BOARD LIGHTING

The elliptical angle reflector was originally designed to solve the problem of lighting large signs and bill boards. The demand was for a uniform light that must come from the side, and yet at the same time be high enough to be out of the line of vision. Extended experiments proved that the elliptical angle type of reflector was the most practical reflector for the purpose and it has met with a large measure of success in furnishing illumination of this kind.



The above diagram gives elevation and plan of part of an installation of elliptical angle reflectors. Details indicated by letters on diagram refer to corresponding letters in the following table:

Trade No.	Mfrs. No.	Size of Lamps Watts	A Height of Board Feet	B Distance Out		C Distance Above		D Distance Apart		E Distance From End	
				Feet	In.	Feet	In.	Feet	In.	Feet	In.
101957	5522	40 to 75	3 to 5	3		2	0	4		2	
101958	5525	100 to 150	6 to 8	5		2	0	5		2	6
101959	5526	200	9 to 12	6	6	2	3	6	6	3	3
101960	5537	300	13 to 16	8		3	0	8		4	
101961	5537	500	17 to 21	12		3	6	10		5	
101962	5538	750	22 to 25	15		2	0	15		7	6
101963	5538	1000	26 to 30	18		2	2	18		9	

For complete specifications, see a preceding page.



## BENJAMIN REFLECTOR UNITS

## PORCELAIN ENAMELED STEEL—REMOVABLE REFLECTOR

## SPECIFICATIONS



No. 6135



Characteristic Curve

REFLECTOR.—Porcelain enameled steel.

HOOD.—Porcelain or baked enamel steel.

SOCKET.—National Electrical Code Standard. Socket is two-piece porcelain Benjamin easy-to-wire, heavy duty type, with lamp grip which prevents loosening and falling of lamp under vibration. For assembly of socket see another page.

Locking type socket supplied with 200-watt units at an advance of 60 cents each, list. Keys at \$1.50 each, list, No. 1399.

FITTING.—Extra heavy X-Type fitting.

TAPPING.—Fixture regularly includes fitting tapped for 1/2-inch iron pipe stem. Fitting tapped 3/4-inch furnished at no additional charge; for 1-inch or 1 1/4-inch fitting, add 30 cents to list price.

FINISH.—Outside of reflector is black; inside is white porcelain enamel.

## DOME REFLECTOR UNITS

## With Baked Enamel Steel Hood



No. 6056

Trade No.	Mfrs. No.	DIMENSIONS, IN.		Size Lamp Watts	Std. Pkg.	Wt. Lbs.	Price Each
194907	6135	16	8 5/8	200	10	3 1/8	\$5.63
194908	6127	18	10 3/4	300, 500	10	4 5/8	7.26
194909	6129	20	14 1/8	750, 1000	10	5 5/8	9.29

## With Porcelain Enameled Steel Hood

194910	6136	16	8 5/8	200	10	3 1/8	5.85
194911	6138	18	10 3/4	300, 500	10	4 5/8	7.59
194912	6140	20	14 1/8	750, 1000	10	5 5/8	9.68



Characteristic Curve

## FLUTED BOWL REFLECTOR UNITS

## With Baked Enamel Steel Hood

Trade No.	Mfrs. No.	DIMENSIONS, IN.		Size Lamp Watts	Std. Pkg.	Wt. Lbs.	Price Each
194913	6067	14	11 1/8	200	10	4 1/4	\$6.47
194914	6069	14	12 1/2	300, 500	10	4 1/2	7.69
194915	6179	17	15 3/4	750, 1000	10	5 1/4	9.73

## With Porcelain Enameled Steel Hood

194916	6056	14	11 1/8	200	10	4 1/2	6.69
194917	6058	14	12 1/2	300, 500	10	4 1/2	7.99
194918	6060	17	15 3/4	750, 1000	10	5 1/4	10.13



Steel Hood

Prices do not include wires or lamps.



## BENJAMIN SHADE HOLDER REFLECTORS

### PORCELAIN ENAMELED STEEL



Benco Pull Chain Socket with Type S Shade Holder Reflector

Benjamin Shade Holder Reflectors, because they are a union of shade holder and reflector, in one piece, obviating a frequent source of trouble; the difficulty of securing a reflector which can be attached direct to the socket already installed.

The use of the Benco Pull Chain Socket with Type S Shade Holder Reflector makes a fixture in which the chain comes straight down inside, instead of outside the reflector—thus eliminating all side strain.

Benjamin screw threaded devices which take Type S Reflectors include the Benco Socket, ceiling units and outlet box fittings. The thread which is common to these fittings and also to the Type S Holders permits an interchangeability of reflectors and glassware holders on the same base pieces—all of which has obvious advantages.

#### Made in Four Types

Type B Shade Holder is designed for attaching to any standard brass shell socket. This socket is the one commonly found in existing interior lighting installations.

Type N Shade Holder Reflector is fitted with a neck so shaped as to fit into any standard 2 1/4-inch shade holder.

Type P Shade Holder Reflector is equipped with a holder which will fit any standard porcelain socket.

Type S Shade Holder Reflector has a screw threaded holder designed to fit Benjamin Screw Threaded Sockets and Fittings.



Type B



Type P

### DOME SHADE HOLDER REFLECTORS

Reflector and Lamp Manufacturers (R. L. M.) Standard

This type of reflector is designed for general lighting. It has large diameter which affords a more efficient light re-direction. The angle of cut off is 17 1/2 degrees, giving good eye protection.

FINISH.—Reflectors white inside, green outside.

With Type B Holder for Brass Shell Sockets

Trade No.	Mfrs. No.	Size of Lamps Watts	Dome Reflector Designation	Diameter	In. Hgt.	In. Bd. Pkg.	Wt. Lbs.	Price Each
194938	14050B	50	50	12	5 1/2	10	1 3/8	\$2.42
194939	14075B	75	75	12	6	10	1 3/8	2.42
194940	14100B	100, 150	100	14	7 1/4	10	2 1/8	2.87
194941	14200B	200	200	16	8 1/4	10	2 1/2	3.27

With Type N Neck for Standard 2 1/4-Inch Shade Holders

194942	14050N	50	50	12	4 5/8	10	1 3/8	2.25
194943	14075N	75	75	12	5 1/2	10	1 3/8	2.25
194944	14100N	100, 150	100	14	6 3/4	10	2 1/8	2.70
194945	14200N	200	200	16	7 3/4	10	2 1/2	3.11

With Type N Neck for Standard 3 1/4-Inch Shade Holders

194946	14300N	300, 400, 500	500	18	7 3/4	10	3 1/8	4.32
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With Type P Holder for Porcelain Sockets

194948	14050P	50	50	12	5 1/2	10	1 3/8	2.48
194949	14075P	75	75	12	6 3/8	10	1 3/8	2.48
194950	14100P	100, 150	100	14	7 3/8	10	2 1/8	2.93
194951	14200P	200	200	16	8 3/8	10	2 1/2	3.33

With Type S Holder for Benjamin Screw Thread Sockets and Fixtures

194952	14050S	50	50	12	5 1/8	10	1 3/8	2.42
194953	14075S	75	75	12	6	10	1 3/8	2.42
194954	14100S	100, 150	100	14	7 1/4	10	2 1/8	2.87
194955	14200S	200	200	16	8 1/4	10	2 1/2	3.27

Prices are for reflectors only and do not include sockets or lamps. Type S Reflectors can be used with Benco Sockets and Ceiling Units.



Type N



Type S



No. 14100B



## BENJAMIN SHADE HOLDER REFLECTORS



No. 12075B

## PORCELAIN ENAMELED STEEL, BOWL

With Type B Holder for Brass Shell Sockets

Trade No.	Mfrs. No.	Size Lamps Watts	DIMENS. IN. Diam. Height	Std. Pkg.	Wt. Lbs.	Price Each
106363	12060B	25, 40, 50, 60	7 5 $\frac{1}{4}$	10	3 $\frac{3}{4}$	\$1.86
106412	12075B	75	8 $\frac{1}{4}$ 7 $\frac{3}{8}$	10	3 $\frac{3}{8}$	1.97
106364	12100B	100, 150	9 7 $\frac{1}{2}$	10	3 $\frac{3}{8}$	2.19
106366	12200B	200	10 8 $\frac{1}{2}$	10	1	2.64
With Type N Neck for Standard 2 $\frac{1}{4}$ -inch Shade Holders						
106375	12060N	25, 40, 50, 60	7 4 $\frac{3}{4}$	10	3 $\frac{3}{4}$	1.69
106413	12075N	75	8 $\frac{1}{4}$ 6 $\frac{1}{8}$	10	3 $\frac{3}{8}$	1.80
106376	12100N	100, 150	9 7	10	3 $\frac{3}{8}$	2.03
106378	12200N	200	10 8	10	1	2.48
With Type P Holder for Porcelain Sockets						
106387	12060P	25, 40, 50, 60	7 5 $\frac{5}{8}$	10	3 $\frac{3}{4}$	1.91
106414	12075P	75	8 $\frac{1}{4}$ 7	10	3 $\frac{3}{8}$	2.03
106388	12100P	100, 150	9 7 $\frac{7}{8}$	10	3 $\frac{3}{8}$	2.25
106390	12200P	200	10 8 $\frac{7}{8}$	10	1	2.70
With Type S Holder for Benjamin Screw Thread Sockets						
106399	12060S	25, 40, 50, 60	7 5 $\frac{1}{4}$	10	3 $\frac{3}{4}$	1.86
106415	12075S	75	8 $\frac{1}{4}$ 7 $\frac{3}{8}$	10	3 $\frac{3}{8}$	1.97
106400	12100S	100, 150	9 7 $\frac{1}{2}$	10	3 $\frac{3}{8}$	2.19
106402	12200S	200	10 8 $\frac{1}{2}$	10	1	2.64

## PORCELAIN ENAMELED STEEL, SHALLOW BOWL

With Type B Holder for Brass Shell Sockets

186925	11040B	25, 40, 50	10 3 $\frac{7}{8}$	10	1	1.59
186926	11060B	50, 60	12 4 $\frac{3}{4}$	10	1 $\frac{1}{2}$	1.81
186927	11075B	75	12 5 $\frac{1}{2}$	10	1 $\frac{1}{4}$	2.08
186928	11100B	100, 150	15 6 $\frac{3}{4}$	10	1 $\frac{1}{2}$	2.98
With Type N Neck for Standard 2 $\frac{1}{4}$ -inch Shade Holders						
186930	11040N	25, 40, 50	10 3 $\frac{3}{8}$	10	1	1.42
186931	11060N	50, 60	12 4 $\frac{1}{4}$	10	1 $\frac{1}{8}$	1.64
186932	11075N	75	12 5	10	1 $\frac{1}{4}$	1.91
186933	11100N	100, 150	15 6 $\frac{1}{4}$	10	1 $\frac{1}{2}$	2.81
With Type P Holder for Porcelain Sockets						
186937	11040P	25, 40, 50	10 4 $\frac{1}{4}$	10	1	1.64
186938	11060P	50, 60	12 5 $\frac{1}{8}$	10	1 $\frac{1}{8}$	1.87
186939	11075P	75	12 5 $\frac{7}{8}$	10	1 $\frac{1}{4}$	2.14
186940	11100P	100, 150	15 7 $\frac{1}{8}$	10	1 $\frac{1}{2}$	3.04
With Type S Holder for Benjamin Screw Thread Sockets						
186942	11040S	25, 40, 50	10 3 $\frac{7}{8}$	10	1	1.59
186943	11060S	50, 60	12 4 $\frac{3}{4}$	10	1 $\frac{1}{8}$	1.81
186944	11075S	75	12 5 $\frac{1}{2}$	10	1 $\frac{1}{4}$	2.08
186945	11100S	100, 150	15 6 $\frac{3}{4}$	10	1 $\frac{1}{2}$	2.98



No. 11075N

## PORCELAIN ENAMELED STEEL, ANGLE

With Type B Holder for Brass Shell Sockets

106484	15040B	25, 40, 50	7 6 $\frac{3}{8}$	10	3 $\frac{3}{8}$	1.86
106485	15060B	60	8 7 $\frac{1}{2}$	10	3 $\frac{3}{8}$	1.97
106416	15075B	75	8 8	10	3 $\frac{3}{8}$	2.31
106486	15100B	100, 150	10 9 $\frac{3}{4}$	10	1	2.98
106487	15200B	200	10 10 $\frac{5}{8}$	10	1	3.26
With Type N Neck for Standard 2 $\frac{1}{4}$ -inch Shade Holders						
106496	15040N	25, 40, 50	7 5 $\frac{7}{8}$	10	3 $\frac{3}{8}$	1.69
106497	15060N	60	8 7	10	3 $\frac{3}{8}$	1.80
106417	15075N	75	8 7 $\frac{1}{2}$	10	3 $\frac{3}{8}$	2.14
106498	15100N	100, 150	10 9 $\frac{1}{4}$	10	1	2.81
106499	15200N	200	10 10 $\frac{1}{8}$	10	1	3.09
With Type P Holder for Porcelain Sockets						
106508	15040P	25, 40, 50	7 6 $\frac{3}{4}$	10	3 $\frac{3}{8}$	1.91
106509	15060P	60	8 7 $\frac{7}{8}$	10	3 $\frac{3}{8}$	2.03
106418	15075P	75	8 8 $\frac{3}{8}$	10	3 $\frac{3}{8}$	2.36
106510	15100P	100, 150	10 10 $\frac{1}{8}$	10	1	3.04
106511	15200P	200	10 11	10	1	3.32
With Type S Holder for Benjamin Screw Thread Sockets						
106520	15040S	25, 40, 50	7 6 $\frac{3}{8}$	10	3 $\frac{3}{8}$	1.86
106521	15060S	60	8 7 $\frac{1}{2}$	10	3 $\frac{3}{8}$	1.97
106419	15075S	75	8 8	10	3 $\frac{3}{8}$	2.31
106522	15100S	100, 150	10 9 $\frac{3}{4}$	10	1	2.98
106523	15200S	200	10 10 $\frac{5}{8}$	10	1	3.26



No. 15075N

FINISH.— Reflectors white inside, green outside.



## BENJAMIN OUTDOOR FIXTURES

SOCKETS ARE NATIONAL ELECTRICAL CODE STANDARD

Weatherproof, for Street Lighting on Low Voltage Multiple Circuits



No. 995

### FLAT CONE REFLECTORS

#### With Bracket

This fixture has flat cone porcelain enamel reflector equipped with two piece easy-to-wire porcelain socket with Benjamin Lamp Grip. It is supported by a 40-inch bracket of  $\frac{3}{4}$ -inch iron pipe with ornamental scroll and wall fitting with porcelain wire openings.

FINISH.—Iron parts are galvanized. Reflector green outside, white inside. For plain mast arm, less scroll, deduct \$1.50.

Trade No.	Mfrs. No.	Lamp, Size Watts	Reflector Size, In.	Std. Pkg.	Price Each
120550	995	25, 40, 50, 60	14	10	\$8.21
120551	994	75	14	10	8.44
120552	996	100, 150	16	10	8.78
120553	997	200	18	10	9.68

#### With Cross Arm

This fixture has flat cone porcelain enamel reflector equipped with two piece easy-to-wire porcelain socket with Benjamin Lamp Grip. It is also equipped with metal cross arm having porcelain knobs, separable connection and weatherproof outlet for line wires. For fixture with shock absorber, add 15 cents to list.

FINISH.—Iron parts are galvanized. Reflector green outside, white inside.

27673	802	25, 40, 50, 60	14	10	5.17
120554	801	75	14	10	5.40
27674	803	100, 150	16	10	5.74
27675	804	200	18	10	6.64



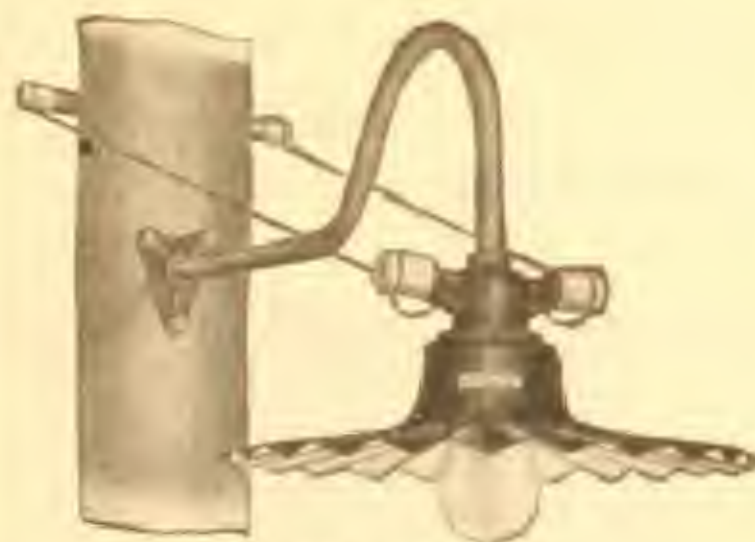
No. 802

### RADIAL REFLECTORS

#### With Goose Neck and Cross Arm

Fixture has one piece radial wave reflector of porcelain enameled steel, cast iron hood, tapped for  $\frac{3}{4}$ -inch pipe, easy-to-wire porcelain socket with Benjamin Lamp Grip, together with gooseneck support and pole fitting. Price for open wiring form includes 40x $\frac{3}{4}$ -inch gooseneck and cross arm, as shown. The concealed wiring form is without cross arm. For fixture less gooseneck and pole fitting, deduct \$2.25 list.

FINISH.—Iron parts are galvanized. Fixtures are black enamel.



No. 1206

Trade No.	Mfrs. No.	Lamp, Size Watts	Kind of Wiring	Price Each
27672	1204	100, 150, 200	Concealed	\$10.01
120537	1205 Mogul	300, 500	Concealed	10.80
120538	1206	100, 150, 200	Open	11.03
120539	1207 Mogul	300, 500	Open	11.76

#### With Bracket

One-piece radial wave reflector fixture as above with ornamental bracket and fitting in place of goose-neck. For fixtures less bracket, deduct \$4.00 list.

FINISH.—Iron parts are galvanized. Fixtures are black enamel.

120555	1208	100, 150, 200	Concealed	11.98
120556	1209 Mogul	300, 500	Concealed	12.77
120557	1210	100, 150, 200	Open	12.99
120558	1211 Mogul	300, 500	Open	13.73

Size of reflector, 18 inches.

Standard package, 5.

Prices do not include wires or lamps.



No. 1208



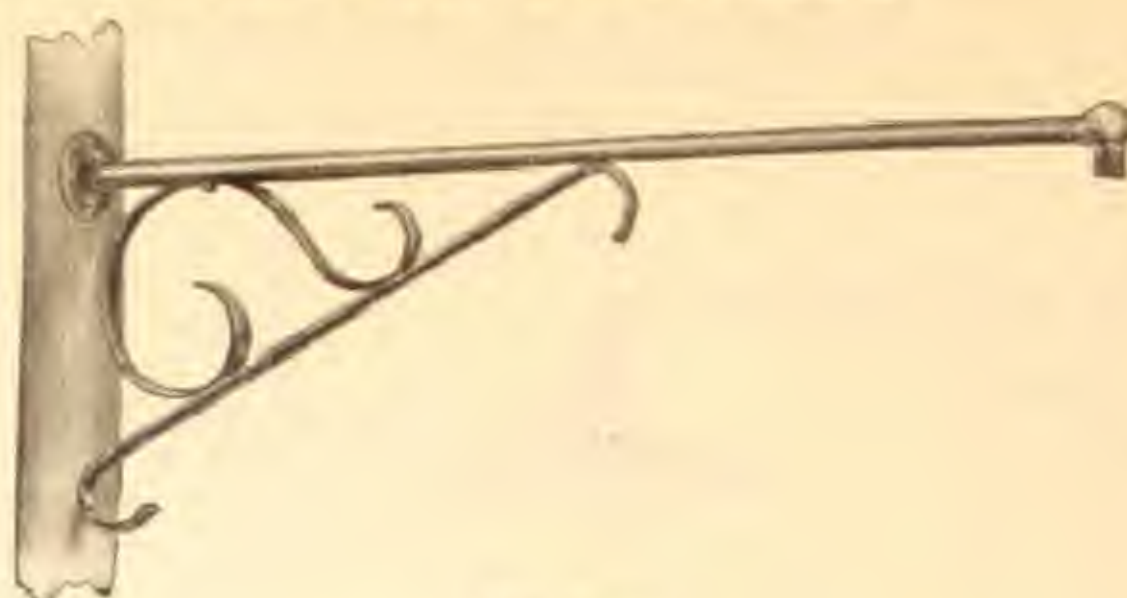
## BENJAMIN STEMS AND BRACKETS



No. 5045



No. 5049



No. 5040

## BRASS CHAIN SUSPENSIONS

With 1/2-inch Loop, Canopy and Crowfoot

Trade No.	Mfrs. No.	Length In.	Canopy Size, In.	Price Each	Price, Ft. Additional Chain
183801	5045	14	5x4	\$2.59	\$1.13

## BRASS STEMS

With Canopy and Crowfoot

Trade No.	Mfrs. No.	Length of Stem, Inches	Size of Pipe, In.	Size of Casing, In.	Size of Canopy, In.	Price Each	Price, Ft. Additional Length
183802	5047	12	1 1/2	1	5 1/2 x 4	\$2.14	\$1.13
183803	5049	12	3/8	3/4	5 x 4	1.80	1.07
183804	5051	8	5/8	Tubing	5 x 4	1.29	.45
183805	5052	12	5/8	Tubing	5 x 4	1.35	.45
183806	5053	8	5/8	Tubing	4 1/2 x 3	1.24	.45



No. 5060



No. 5061

## IRON PIPE STEMS

With Shock Absorbers

Trade No.	Mfrs. No.	Length, Inches	Size of Pipe, In.	Kind of Fitting	Price Each	Price, Ft. Additional Length
183807	5060	12	3/8	Strap or Loop	\$1.07	\$0.34
183808	5061	12	3/8	Bipod	.97	.34
183809	5062	12	1/2	Bipod	1.07	.39

With No. 6029 Fitting

183810	5063	8	1/2		1.29	.39
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For fitting with shock absorber No. 6030, add 10 cents.

With No. 6031 Fitting

183811	5064	8	1/2		1.46	.39
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No. 5063



No. 5064

## MAST ARMS WITH CHAINS AND 3/4x1/2-INCH FITTINGS

183812	6180	36	3/4		3.94	.90
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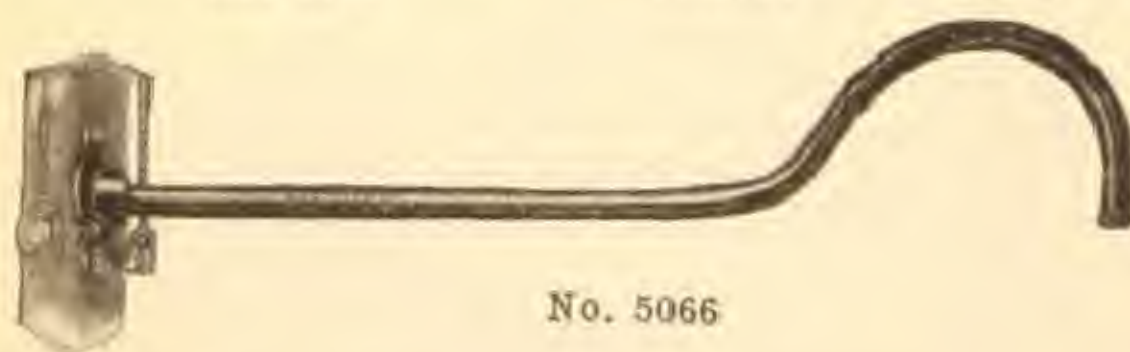
Mast arms furnished up to 10 feet in length.



No. 6180

## BRACKETS WITH 3/4x1/2-INCH FITTINGS

Trade No.	Mfrs. No.	Length, Inches	Size of Pipe, In.	Description	Price Each
183813	5038	40	3/4	Less brace	\$2.81
183814	5040	40	3/4	With brace	4.50



No. 5066

## IRON GOOSENECKS

With Wall or Pole Fittings

Trade No.	Mfrs. No.	Length, In.	Size of Pipe, In.	Description	Price Each
183815	5066	30	1/2	90 Deg.	\$1.97
183816	5067	40	3/4	90 Deg.	2.53
183817	5069	33	1/2	45 Deg.	1.97

Insulating joint and hickey will be furnished in place of crowfoot on brass stems if ordered at an advance for the 3/8x3/8 inch of 20 cents, for the 1/2x3/8 inch, 30 cents.

For fiber insulating ring attached to canopy, add 30 cents.

Finish of brass parts is brushed. Iron parts are galvanized, but black enamel may be had without extra charge.

This port  
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Lamps in  
black outside.  
Trade  
No.  
92009  
92010  
92495  
Prices do



## BENJAMIN WEATHERPROOF FIXTURES

SOCKETS ARE NATIONAL ELECTRICAL CODE STANDARD

FOR STORE FRONT AND YARD LIGHTING

### GLOBE FIXTURES WITH GOOSENECK

Fixtures Nos. 5112-6114 include steel hood with finish as indicated, ball globe and two piece, easy-to-wire porcelain socket with Benjamin Lamp Grip, together with 40x $\frac{3}{4}$ -inch gooseneck and No. 5031 pole fitting having porcelain wire openings.

The method of hooding protects the lamp from rain and snow. Globe offers especially good diffusion. Fixture support is independent of socket. Copper units have thumbscrews equipped with locknuts.



Trade No.	Mfrs. No.	Enameled Hoods	SIZE OF LAMP		Std. Pkg.	Price Each
			Globe Inches	Size Watts		
92005	5112	Porcelain	10x6	300, 500	5	\$13.95
92006	5114	Baked	10x6	300, 500	5	10.69
91995	6102	Porcelain	12x8	750, 1000	5	16.48
91996	6114	Baked	12x8	750, 1000	5	13.05

### GLOBE FIXTURES WITHOUT SUSPENSION

Fixtures Nos. 5102-5106 are substantially as above but less gooseneck and pole fitting. Hoods are tapped  $\frac{1}{2}$ -inch, but  $\frac{3}{4}$ -inch may be ordered at no advance in list; 1 or  $1\frac{1}{4}$  inches at an advance of 25 cents list. For No. 6031M fitting add \$1.25 list; for No. 6049M, \$1.35 list. For reflectors, see fixtures below.



92001	5102	Porcelain	10x6	300, 500	5	11.03
92002	5104	Baked	10x6	300, 500	5	7.76
92003	5107	Porcelain	12x8	750, 1000	5	13.56
92004	5106	Baked	12x8	750, 1000	5	10.13

### GLOBE FIXTURES WITH REFLECTOR AND MAST ARM

Fixtures 5117-6120 are substantially Nos. 5102-5106 with the addition of enameled steel reflector as indicated and a 3-foot mast arm of  $\frac{3}{4}$ -inch pipe with head, chains and No. 5031 pole fitting having porcelain wire openings. For fixtures less mast arm and fitting, deduct \$3.94.

Reflectors only list as follows; 15-inch, \$3.00; 18-inch, for 10x6-inch globe, \$3.90; 20-inch, \$4.50.

92007	*5118	Porcelain	10x6	300, 500	5	17.94
92008	*5117	Baked	10x6	300, 500	5	14.68
91999	†6120	Porcelain	12x8	750, 1000	5	21.99
92000	†6119	Baked	12x8	750, 1000	5	18.56

\*Size of reflector, 15 inches.

†Size of reflector, 20 inches.

Globes are regularly furnished with hole in bottom. They list as follows; 10x6-inch, \$4.78; 12x8-inch, \$7.38.

Standard finish on all above fixtures is black enamel. Iron parts are galvanized.

Prices are less wires and lamps.



No. 678

### CONTRACTORS' PORTABLE LIGHTS

This portable fixture can be suspended by rope in mid-air, making it possible to turn the reflector in any direction and have the light directed at the right spot and at the same time out of the way of the work. A strong wire guard prevents chance of accidental damage to the lamps.

Lamps not furnished but 25 to 60-watt Mazda B lamps may be used. Reflector is of steel, black outside, white inside. Fittings, guard and band are galvanized.

Trade No.	Mfrs. No.	No. of Lights	Size of Reflector, in.	Lamp Size Watts	Std. Pkg.	Price Each
92009	677	4	16	25, 40, 50, 60	5	\$16.14
92010	678	5	16	25, 40, 50, 60	5	16.54
69495	679	6	16	25, 40, 50, 60	5	16.93

Prices do not include ropes, wires or lamps.



## BENJAMIN CLUSTER FIXTURES

CLUSTERS ARE NATIONAL ELECTRICAL CODE STANDARD



No. 22H

## CEILING FIXTURES

Fixtures Nos. 22H-24H have cluster body less flange and porcelain enameled steel reflector, which is placed directly between cluster body and ceiling, with rubber ring preventing contact with metal parts.

Trade No.	Mfrs. No.	No. of Lights	Reflector Size, In.	Lamp Size Watts	Price Each
106161	22H	2	15	25-100	\$3.83
106162	23H	3	15	25-100	4.22
106163	24H	4	15	25-100	4.61

No. H215 reflector only, \$1.60 each.



No. 6034

## REFLECTOR FIXTURES

Fixtures Nos. 6032-6035 have 3T cluster body with shell of aluminum, standard 8-inch stem of 1/2-inch iron pipe and suspension fitting with shock absorber and deeply hooded white enameled steel reflector. Reflector and cluster are made weatherproof by gasket and flange. Additional length stems list at 45 cents per foot. For fixture with gooseneck and wall fitting, add 70 cents list. Iron parts are galvanized.

Trade No.	Mfrs. No.	No. of Lights	Reflector Size, In.	Length Less Lamps Inches	Lamp Size Watts	Price Each
106164	6032	2	16	14	25-100	\$6.81
106165	6033	3	16	14	25-100	7.20
106166	6034	4	16	14	25-100	7.59
106167	6035	5	16	14	25-100	7.99

No. H316 reflector only, \$2.88 each.

## WEATHERPROOF FIXTURES

Fixtures Nos. 6012-6016 consist of Type 1 aluminum cased wireless cluster, enameled steel reflector, and 8-inch stem with flange and separable suspension fitting. Flange is tapped 1/2-inch and is bolted to the cluster back. Socket shells are of copper. Iron parts are galvanized.



No. 6015

## Type 1 Body, Pendant

Trade No.	Mfrs. No.	No. of Lights	Reflector Size, In.	Lamp Size Watts	Price Each
044106	6012	2	15	25-100	\$5.74
044107	6013	3	15	25-100	6.13
044108	6014	4	15	25-100	6.52
044109	6015	5	15	25-100	6.92
044110	6016	6	15	25-100	7.31

No. H115 reflector only, \$1.92 each.

Fixtures Nos. 5012-5016 are similar to above, but have 1/2x30-inch gooseneck and wall fitting.

## Type 1 Body, Gooseneck

Trade No.	Mfrs. No.	No. of Lights	Reflector Size, In.	Lamp Size Watts	Price Each
044115	5012	2	15	25-100	\$5.85
044116	5013	3	15	25-100	6.24
044117	5014	4	15	25-100	6.64
044118	5015	5	15	25-100	6.98
044119	5016	6	15	25-100	7.37



No. 5015

Brush brass is standard finish for brass parts.  
Prices are less wires and lamps.



# BENJAMIN FIXTURES

SOCKETS AND CLUSTERS ARE NATIONAL ELECTRICAL CODE STANDARD

## INDUSTRIAL CLUSTERS

Nos. 0632L-0635½

Fixtures Nos. 0632L-0635½ have 18-inch deeply hooded flat cone white enameled steel reflector, 3T wireless cluster body, 12-inch stem of ¾-inch galvanized iron pipe, and shock absorber. For 16-inch reflector, suitable for lamps below 100-watt, instead of 18-inch, deduct 40 cents list. Additional length stems list at 40 cents per foot.



Trade No.	Mfrs. No.	No. of Reflector Lights	Reflector Diam., In.	Length, In. less Lamp	Lamp Size Watts	Type of Wiring	Price Each
27593	0632L	2	18	18½	60-200	Mult.	\$6.81
27594	0633L	3	18	18½	60-200	Mult.	7.20
27595	0634L	4	18	18½	60-200	Mult.	7.59
27596	0635L	5	18	18½	60-100	Mult.	7.99
27598	0632½	2	18	18½	60-200	Series	6.81
27599	0634½	4	18	18½	60-200	Series	7.59
27600	0635½	5	18	18½	60, 100	Series	7.99

Nos. 0642-0645½

Fixtures Nos. 0642-0645½ are similar to above, but have bowl-shaped 18-inch white enameled reflector.



120632	0642	2	18	21	100, 200	Mult.	8.04
27601	0643	3	18	21	100, 200	Mult.	8.44
27602	0644	4	18	21	100, 200	Mult.	8.83
27603	0645	5	18	21	100	Mult.	9.23
27606	0642½	2	18	21	100, 200	Series	8.04
27607	0644½	4	18	21	100, 200	Series	8.83
27608	0645½	5	18	21	100, 100	Series	9.23

Nos. 0664, 0674

Fixtures Nos. 0664 and 0674 are large reflector units with white enamel steel reflectors for use in mills and factories. They have concentrating dome reflector and can be hung sufficiently high to clear traveling cranes.



Fixtures have 8-inch stem of ½-inch iron pipe, No. 6031 fitting with porcelain wire openings and porcelain sockets with Benjamin Lamp Grip. Iron parts are galvanized. Prices include stem wires.

Trade No.	Mfrs. No.	No. of Reflector Lights	Reflector Diam., In.	Length, In. less Lamps	Socket Base	Lamp Size Watts	Price Each
052626	0664	4	24	21	Mogul	300, 500	\$25.37
27614	0674	4	24	21	Medium	200	24.19

Nos. 0532-0535

Fixtures Nos. 0532-0535 have 3T cluster body, standard 12-inch stem of ¾-inch iron pipe and ¾-inch brass casing, deeply hooded white enameled steel reflector, 5x4-inch canopy and crowfoot. Socket outlets are at an angle of 18 degrees with the vertical. Fixtures with 18-inch reflectors for 100-watt lamps will be furnished at an advance of 50 cents list. Additional length stems list at \$1.15 per foot.



120633	0532	2	16	17	.....	25-100	7.09
120634	0533	3	16	17	.....	25-100	7.48
120635	0534	4	16	17	.....	25-100	7.89
120636	0535	5	16	17	.....	25-60	8.27



## BENJAMIN WEATHERPROOF FITTINGS



No. 6203

## CROSS ARMS

Trade No.	Mfrs. No.	Description	Size In.	Std. Pkg.	Wt. Lbs.	Price Each.
190604	6200	Less shock absorber	1/2	10	13	\$1.46
190605	6202	With shock absorber	1/2	10	14	1.58
190606	6203	With insulated wire openings	3/4	10	16	1.97



No. 6029

No. 6028M

## SUSPENSION FITTINGS

## Without Shock Absorber

Trade No.	Mfrs. No.	Size, Tapped Inches	Std. Pkg.	Wt. Lbs.	Price Each.
190607	6029	1/2	10	8	\$0.90

## With Shock Absorber

190608	6030	1/2	10	9	1.01
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## Malleable Iron Fitting

190609	6028	1/2 female	10	3	.39
190610	6028M	1/2 male	10	3	.45



No. 6031M

## With Porcelain Wire Openings

71145	*6031	1/2	10	5	1.07
71163	*6031F	1/2 top and bottom	10	5	1.07
71160	*6031M	1/2 male	10	5	1.18
71161	*6049	1/2	10	11 1/2	1.29
71162	*6049M	1/2 male	10	11 1/2	1.35
71164	*6049V	3/4 male	10	11 1/2	1.35

\*National Electrical Code Standard.



No. 6049V



No. 6186

## BALL FITTINGS

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt. Lbs.	Price Each.
190611	6186	3/4 x 1/2	10	5	\$0.62

## POLE AND WALL FITTINGS

Trade No.	Mfrs. No.	Kind of Fittings	Size Tapped Inches	Std. Pkg.	Wt. Lbs.	Price Each.
71147	5025	Pole	1/2	10	8	\$0.45
71148	5026	Wall	1/2	10	4	.45



No. 5025



No. 5026

## POLE FITTINGS

## Without Wire Openings

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt. Lbs.	Price Each.
71150	5027	3/4	10	13 1/2	\$0.90
71151	5028	1/2	10	13 1/2	.90

## With Wire Openings

71152	5031	3/4	10	15 1/2	1.29
71153	5032	1/2	10	15 1/2	1.29



No. 5031



No. 5027

Iron parts are galvanized. Black enamel may be ordered without change in price.

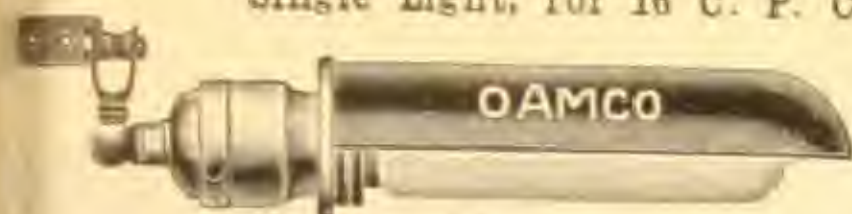
\*National Electrical Code Standard.



## OAMCO SHOW CASE REFLECTORS

### TYPE No. 577

Single Light, for 16 C. P. Carbon or 25-watt Mazda Short Tubular Lamps



Made of brass, nickel-plated and polished. The complete device consists of a one-piece stamped reflector with an Oamco Patent Holder Attachment, an adjustable show case frame bracket and a standard brass shell keyless socket.

Trade No.	Mfrs. No.	Size, INCHES Length Width	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
	No. 577C					
50901	577	6 $\frac{3}{4}$ 2 $\frac{1}{8}$	Reflector only	20	8	\$0.83
50902	577A	1 $\frac{3}{4}$ 1 $\frac{1}{2}$	Bracket only	20	2	.55
50903	577B	2 $\frac{1}{8}$	Reflector and bracket	20	10	1.38
50904	577C	10 2 $\frac{1}{8}$	Reflector, bracket and socket	20	20	1.95

### TYPE No. 773

Two Light, for 16 C. P. Carbon or 25-watt Mazda Short Tubular Lamps



Made of brass, nickel-plated and polished. The complete fixture is made up of a one-piece stamped reflector with spring clip socket holder, an adjustable show case frame bracket and a standard brass shell twin keyless socket.

	No. 773C					
0520	773	14 2 $\frac{1}{2}$	Reflector only	25	25	1.30
0521	773A	1 $\frac{1}{2}$ 1 $\frac{1}{2}$	Bracket only	25	2	.55
0522	773B	14 2 $\frac{1}{2}$	Reflector and bracket	25	27	1.85
0523	773C	14 2 $\frac{1}{2}$	Reflector, bracket and socket	25	35	2.80

### TYPE No. 578

Two Light, for 16 C. P. Carbon or 25-watt Mazda Short Tubular Lamps



Made of brass, nickel-plated and polished. Consists of two one-piece stamped reflectors with an Oamco Patent Holder Attachment, an adjustable show case frame bracket and a standard brass shell twin keyless socket.

	No. 578					
50905	578	15 $\frac{1}{2}$ 2 $\frac{1}{8}$	Complete	10	10	3.16
50524	578A	1 $\frac{1}{2}$ 1 $\frac{1}{2}$	Bracket only	25	2	.55
50901	577	6 $\frac{3}{4}$ 2 $\frac{1}{8}$	Reflector only	20	8	.83

### TYPE No. 776

Single Light, for 16 C. P. Carbon or 25-watt Mazda Short Tubular Lamps



Made of steel, matte aluminum finish. Made up of a one-piece stamped reflector, an adjustable show case frame bracket and a standard brass shell keyless socket.

	No. 776B					
0526	776	11 2 $\frac{1}{2}$	Reflector and bracket only	20	8	1.00
0527	776A	11 2 $\frac{1}{2}$	Reflector, bracket and nickel-plated keyless socket	20	30	1.55

### TYPE No. 774

For 16 C. P. Carbon or 25-watt Mazda Short or Long Tubular Lamps



Made of steel, exterior finished Bauer-Barff, dead black. Metal straps furnished to attach to frame of show case. Wired and equipped with nickel-plated keyless sockets spaced 12 in. apart for short lamps

	Type No. 774					
		ad 20 in. for long lamps. Lengths up to and including 10 ft.				
		For 4-inch Short Lamp				
0542	774	Matte aluminum reflecting surface	2 $\frac{1}{2}$	25	2.30	
0543	774A	Plain mirror reflecting surface	2 $\frac{1}{2}$	25	2.50	
		For 12-inch Long Lamp				
0544	774B	Matte aluminum reflecting surface	2 $\frac{1}{2}$	25	2.10	
0545	774C	Plain mirror reflecting surface	2 $\frac{1}{2}$	25	2.30	

### TYPE No. 521

Wall Case Reflector for 25 or 40-watt Mazda Regular Lamps



Made of steel, dead black finish exterior. Metal straps are furnished to suspend the reflector. Equipped with wiring and nickel-plated keyless sockets spaced 12 inches apart. Made in lengths up to and including 10 feet. Face, 3 $\frac{1}{2}$  and 4 $\frac{1}{2}$  inches.

	Type No. 521					
0546	521E	Plain mirror, glass lining	3 $\frac{1}{2}$	25	2.40	
0547	521F	Plain mirror, glass lining	4 $\frac{1}{2}$	25	2.50	
0548	521C	Matte aluminum lining	3 $\frac{1}{2}$	25	2.15	
0549	521D	Matte aluminum lining	4 $\frac{1}{2}$	25	2.25	



## OAMCO REFLECTORS



No. 835



No. 836



No. 905



No. 892A



Distribution Curve

## BANK SCREEN REFLECTORS

## Schedule E

Designed for use over the working desks in cages. The reflected light is bright, without glare or shadows and very materially reduces eye strain.

They are lined with plain mirror glass and are equipped with a latch door of diffusing glass.

## Single Reflector to Light One Desk in Cage

Made of Steel. Finished Dead Black

Trade No.	Mfrs. No.	Face Inches	Std. Qty. Feet	Price per Foot
133127	835	5	20	\$5.20

Made of Copper. Finished to Match Bank Fixtures

133128	835A	5	20	7.50
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## Double Reflector to Light One Desk on Each Side of Cage

Made of Steel. Finished Dead Black

133129	836	8	20	6.00
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Made of Copper. Finished to Match Bank Fixtures

133130	836A	8	20	8.50
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Prices include wiring and keyless sockets spaced one foot apart.

## SHOW WINDOW REFLECTOR CHANNEL

## Schedule E

Channel is simple in construction and designed for appearance as well as stability. It is small, easily wired and placed in position with smallest amount of labor. Made of No. 20 gauge iron, size, 2 1/4 inches wide by 1 3/4 inches high. Cover is detachable to which the receptacle and 2 1/4-inch shade holders are attached. Hangers are made to fasten the channel against the ceiling or special hangers can be made to suspend from transom bar. Finish is black japan.

Channel furnished with hangers, holders and receptacles.

Trade No.	Mfrs. No.	Lamp Spacing	Std. Qty. Feet	Price, per Ft.	
				Not Wired	Wired
133146	905	12-in. centers	20	\$1.65	\$1.85
133147	905A	15-in. centers	20	1.60	1.80
133148	905B	18-in. centers	20	1.50	1.70
133149	905C	24-in. centers	20	1.45	1.65

## SHOW WINDOW REFLECTORS

## Schedule B

Reflectors are made of steel, porcelain enameled, green outside, white inside. The surface does not deteriorate, crack or scratch and can be restored to its initial efficiency by cleaning.

Trade No.	Mfrs. No.	Diam. Inches	Lamp Spacing	Size of Lamp Watts	Std. Pkg.	Price Each
133150	892A	8	12-in. centers	40	10	\$1.30
188415	892AA	8	15-in. centers	60	10	1.35
188416	892C	10	18-in. centers	75	10	1.94
188417	892D	10	24-in. centers	100	10	2.10



## OAMCO REFLECTORS

### SCHEDULE C

#### PICTURE REFLECTORS

Nos. 903 and 904

These reflectors are recommended to be used on pictures of the following approximate dimensions:

One-light reflector for picture, width 23 inches, height 23 inches and smaller.

Two-light reflector for picture, width 40 inches, height 40 inches and smaller to one-light size.

Can be adjusted so the light can be reflected at the proper angle. Finish is gold bronze outside, matte aluminum reflecting side and equipped with keyless socket, 10 feet silk lamp cord and attachment plug. Reflectors are designed for use with tubular lamps of 25 or 40-watt.



No. 903



No. 543A

Trade No.	Mfrs. No.	Spread Inches	No. of Lights	Std. Pkg.	Price Each
29900	903	9 1/4	1	10	\$4.50
29901	904	13 1/2	2	10	6.00

#### No. 543

Reflectors for large pictures; equipped with adjustable brackets to fasten to the back of the picture frame or wall. Can be adjusted to reflect the light at any desired angle. Wired with keyless sockets and 10 feet cord. Finish is gold bronze outside, matte aluminum reflecting side. Reflectors are designed for use with standard lamps of 25, 40 or 60-watt.

Trade No.	Mfrs. No.	Length Inches	No. of Lights	Std. Pkg.	Price Each
054585	543A	12	1	10	\$8.90
054586	543B	18	2	10	11.00
054587	543C	24	2	10	13.30
29902	543D	30	3	10	15.40

Special lengths with necessary brackets and wired with keyless sockets to order.



No. 779

#### ORCHESTRA REFLECTORS

Made of steel, gold bronze outside, silver aluminum bronze reflecting side. Equipped with an adjustable bracket that can be easily attached to the frame of the music stand. The reflector can be adjusted to reflect the light at the proper angle. Designed for use with 3/8-inch pull socket and 25 to 40-watt lamp. Length, 10 inches; diameter, 3 inches.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
95980	779	Reflector and bracket	10	17	\$3.10
95981	779A	Reflector, bracket and pull socket	10	18	4.35
95983	779C	Reflector, bracket, pull socket, 8 feet reinforced lamp cord and attachment plug	10	21	5.90

#### PULPIT REFLECTORS

Made of steel, gold bronze outside, silver aluminum bronze reflecting side. Furnished with bracket to fasten with screws to the reading desk, a reflector constructed so adjustments of light to the proper angle can be quickly made. For use with a 3/8-inch pull socket and 25 to 40-watt lamp. Length, 10 inches; diameter, 3 inches.

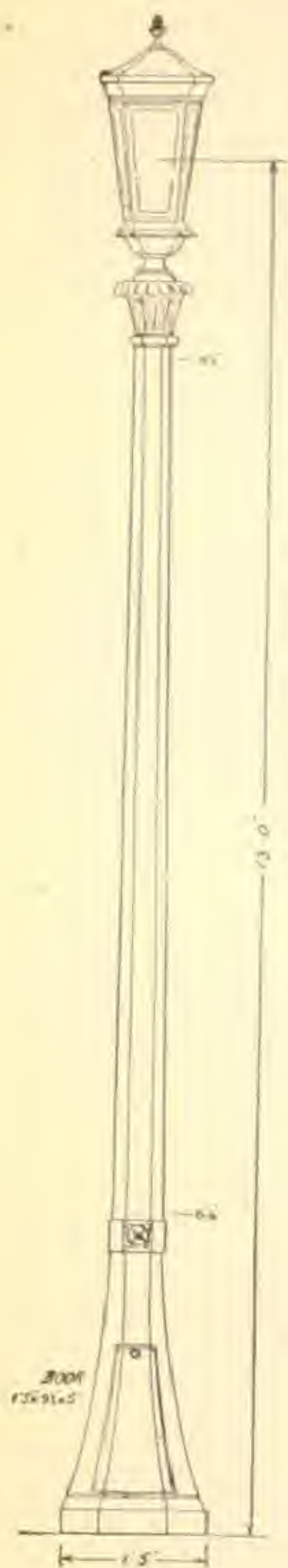


No. 778

29903	778	Reflector and bracket	10	17	3.10
29904	778A	Reflector, bracket and pull socket	10	18	4.35
29905	778C	Reflector bracket, pull socket, 8-ft. twisted lamp cord and attachment plug	10	21	5.90



## STREET LIGHTING STANDARDS

Garden City  
With Polygon LanternProvincial  
With N. E. 150 Fixture TopGarden City  
With N. E. 100 Fixture Top

Trade No.	Mfrs. No.	Height Feet	Description	Shipping Wt., Lbs.	Price Each
202848	Garden City	13	Cast Iron Lamp Standard with door in base, one light, polygon lantern	475	\$151.00
202849	Provincial	12	Cast Iron Lamp Standard with door in base, N. E. 150 fixture top	400	98.50
202850	Garden City	12	Cast Iron Lamp Standard with door in base, N. E. 100 fixture top	400	99.50

All lamp standards shown on this page include globes and regent film sockets, but are unwired.

Algonquin  
With 14-in. Ball G

Trade No.	Mfrs. No.	Height Feet	Description	Shipping Wt., Lbs.	Price Each
202851	Algonquin				
202852	Laurel				
202853	Laurel				

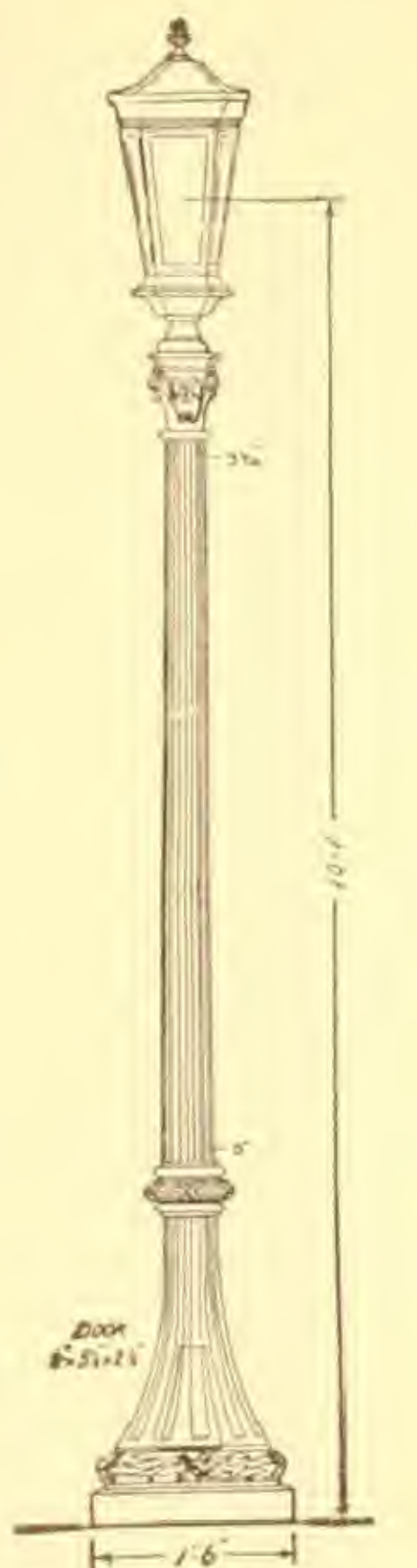
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# STREET LIGHTING STANDARDS



Algonquin  
With 14x6-in. Ball Globe



Laurentian  
With Polygon Lantern



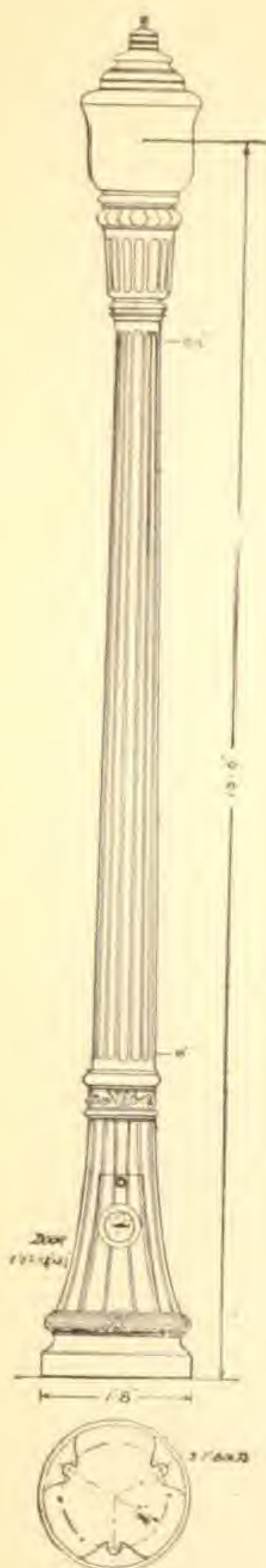
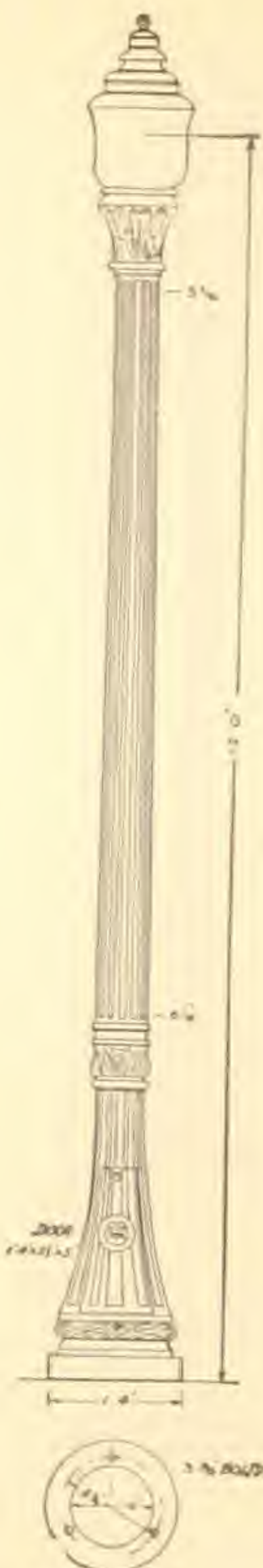
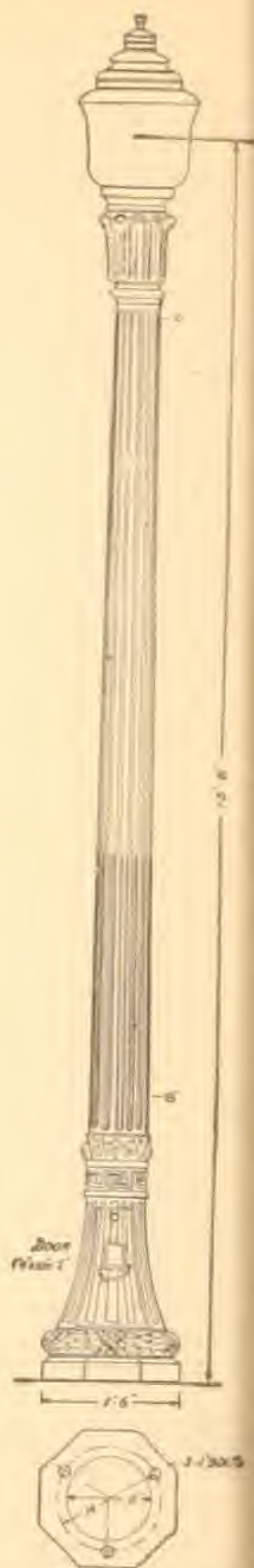
Laurentian  
With 12x6-in. Ball Globe

Trade No.	Mfrs. No.	Height	Description	Shipping Wt., Lbs.	Price Each
2851	Algonquin	9 ft. 11 in.	Cast Iron Lamp Standard with door in base, 14X6 in. ball globe.	225	\$42.00
2852	Laurentian	10 ft. 1 in.	Cast Iron Lamp Standard with door in base, polygon lantern	450	144.50
2853	Laurentian	9 ft. 6 in.	Cast Iron Lamp Standard with door in base, 12x6 in. ball globe.	375	85.00

All lamp standards shown on this page include globes and regent film sockets, but are unwired.



## STREET LIGHTING STANDARDS

Metropolitan  
With N. E. 200 Fixture TopProvincial  
With N. E. 100 Fixture TopDominion  
With N. E. 200 Fixture Top

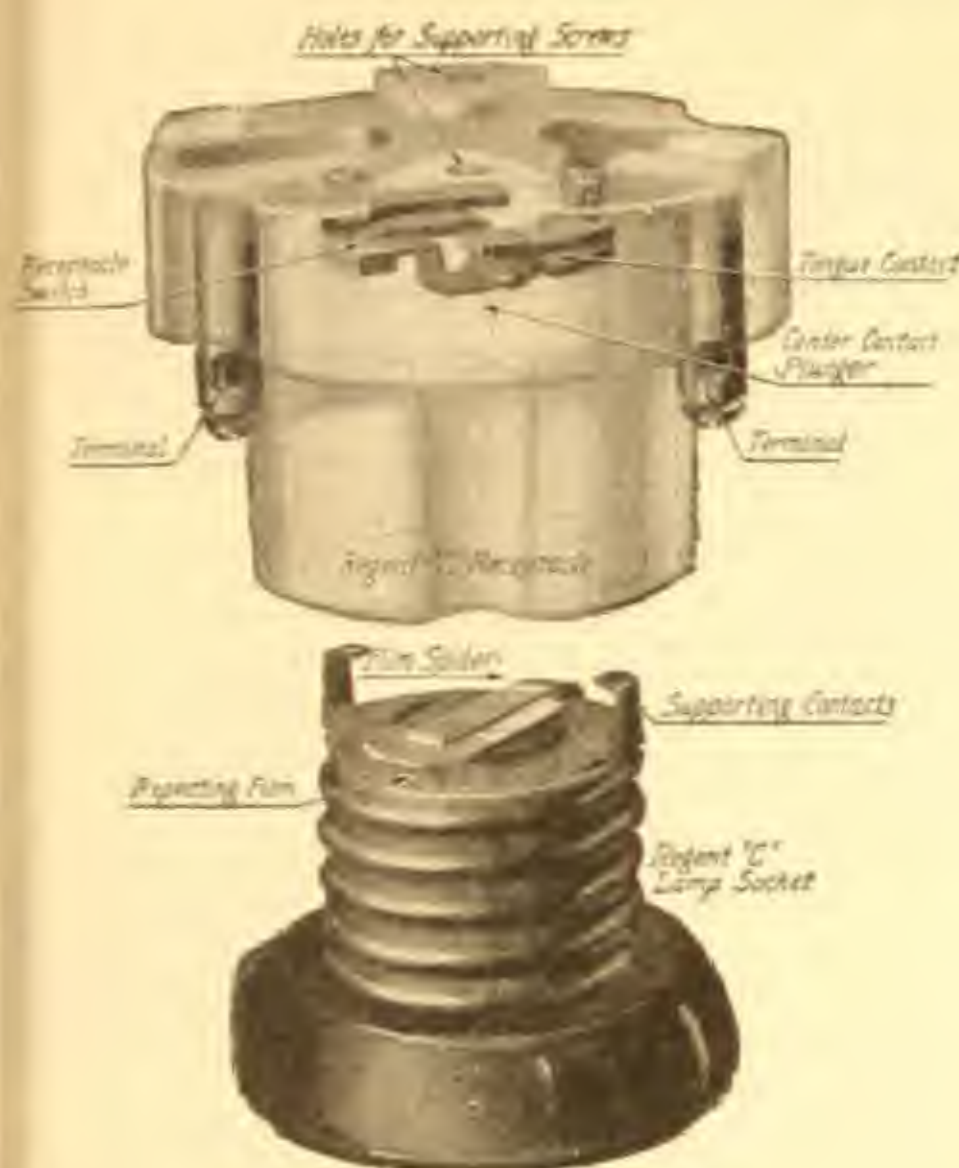
Trade No.	Mfrs. Name	Height	Description	Shipping Wt., Lbs.	Price Each
202854	Metropolitan	13 ft. 6 in.	Cast Iron Lamp Standard with door in base, N. E. 200 fixture top.	650	\$138.00
202855	Provincial	12 ft.	Cast Iron Lamp Standard with door in base, N. E. 100 fixture top.	400	99.50
202856	Dominion	13 ft. 8 in.	Cast Iron Lamp Standard with door in base, N. E. 200 fixture top.	600	130.00

All lamp standards shown on this page include globes and regent film sockets, but are unwired.



## WESTINGHOUSE-CUTTER REGENT C FILM SOCKETS

### THE SAFETY VALVE FOR STREET SERIES SYSTEMS



Phantom View of Regent C Receptacle with View of Lamp Socket, Showing Repeating Film

In a straight series lighting system, the constant current transformer which regulates the voltage to compensate for burned out lamps may be considered the heart of the system while the Regent Film Socket is the safety valve.

When a lamp burns out, there is a momentary rise in potential across the terminals of the lamps and the dielectric film in the socket must puncture to re-establish the circuit. If the dielectric strength of the film is too great, the rise of the voltage may not be sufficient to puncture the film, or it may hold the circuit open until the voltage has increased to a point that will produce violent surges in the line. These surges are damaging to Mazda C lamps because the filament must be kept so near the melting point that a line surge of any consequence destroys the lamp.

The film used in the Regent Socket punctures uniformly and accurately at rated voltage. It is enclosed in the socket and protected against climatic conditions which might prevent this

accuracy. The film cannot creep out as a result of vibration of the fixture and lamp.

Regent Film Sockets have been thoroughly tried out by the users of the country. Hundreds of thousands are in service under all climatic conditions.

To the many well-known advantages of the Regent Socket, improvements have been added to make the Regent Socket, illustrated above, the ideal safety valve socket.

### REGENT C FILM SOCKETS SOLVE OUTAGE PROBLEMS

Outage penalties eat into the profits and accidents occur because of darkness. No such condition can arise with the repeating film. Lift the spring spider, turn the film a fraction of an inch, close it and screw in a new lamp. Insert the socket in the receptacle and the lamp is ready for operation. The saving in cost of film renewals alone will pay for the socket in a short time.

### ADVANTAGES OF REGENT C FILM SOCKETS

Use Regent C Sockets with Cutter pendants, streethoods, posts and other fixtures with straight series lamps. The following advantages are obtained:

- The repeating film saves trouble and time, and decreases the expense of renewals.
- Only the calibrated film can be used with Regent C Sockets.
- Large contact surface and uniform pressure insure accuracy in film puncture.
- Fool-proof construction insures the proper use of the film and socket.
- The film is enclosed in the socket, protecting it against climatic conditions which might prevent accuracy in film puncture.
- There are no live metal parts exposed back of the socket; this construction eliminates danger from corrosion and short circuits.
- The intense heat of Mazda C lamps cannot affect the operation of the film.
- The lamp socket is easily inserted in the receptacle; a slight turn locks it in place.
- Lamps may be renewed easily by hand or with lamp-changer from the ground.
- Lamps may be inserted in the lamp socket shells at the storeroom and carried in this manner by the linemen to the places where renewals are made.
- The Regent C Socket is smaller and better insulated than other designs.



## WESTINGHOUSE-CUTTER SERIES STREETHOOD BODIES

FOR 250, 400 AND 600 Cp. SERIES MAZDA C LAMPS  
STANDARD PACKAGE QUANTITY, 10

No. W27111, 18-inch Radial Bowl Streethood Body with 8 1/2-inch Holophane Bowl Refractor



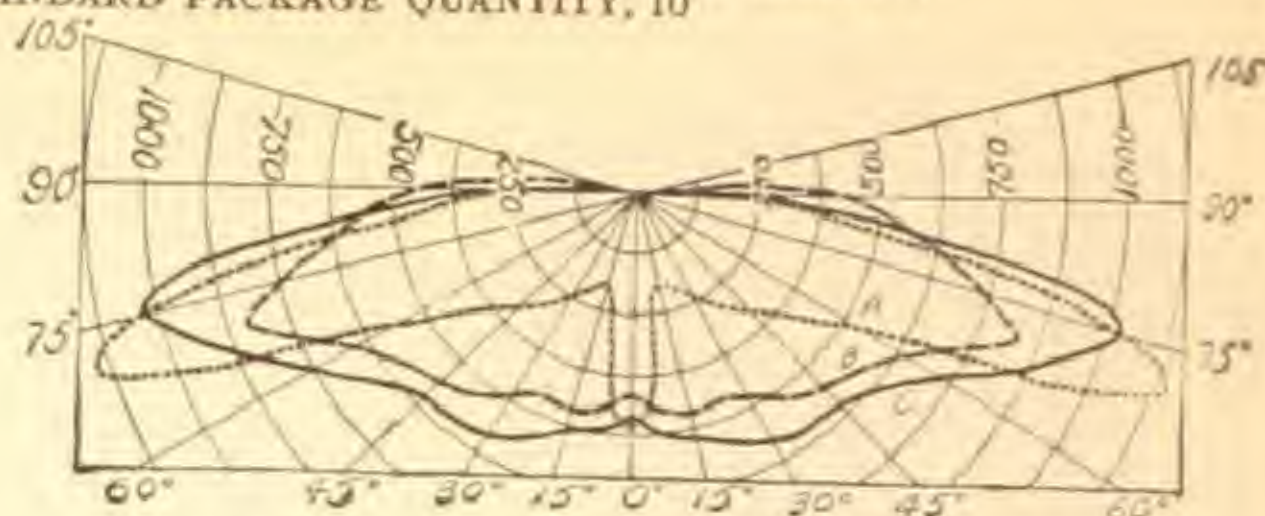
No. W27117, 18-inch Radial Bowl Streethood Body with 8 1/2-inch Sol-lux Diffuser



No. W27113, 18-inch Radial Bowl Streethood Body with 8 1/2-inch Holophane Skirted Refractor



No. W27119, 20-inch Radial Bowl Streethood Body with Extension



Distribution Curves for 600 Cp. Mazda Lamps with 18-in. Radial Bowl Reflector and A-8 1/2-in. Bowl Refractor. B-8 1/2-in. Skirted Refractor. C-8 1/2-in. Band Refractor

Consists of a porcelain insulator head with Regent C Film Socket and iron canopy and a reflector with or without refractor. Porcelain head contains socket and is equipped with galvanized iron canopy, painted black. The canopy is threaded for 3/4-inch pipe for fastening to brackets or for center suspension fittings or the streethood will be furnished with canopy threaded for 1 1/4-inch pipe.

Line wires leading to the streethood are tied securely in the outer rim of the porcelain head and lead into the socket terminals through holes provided therefor.

Reflectors are made of deep drawn steel and surfaced with three coats of highest grade porcelain enamel, reflective white underneath, green on top. The reflector is attached to the porcelain head by means of two stationary lugs and a heavy set screw with locknut engaging a 4-inch copper heel which protects the enamel from chipping.

For 3/4-in. Pipe*	Trade No.	Mfrs. No.	Description	Ship. Wt., Lbs. Each	Price Each
			<b>With 18-inch Radial Bowl Reflector and 8 1/2-inch Holophane Bowl Refractor</b>		
	182014	W27111	Complete unit	24	\$13.25
	182002	W27141	Porcelain head with socket	8	4.25
	182003	W27143	Unit Consists of 18-in. rad. bowl reflector	4	2.25
	182015	W27169	8 1/2-in. bowl refractor	9	5.25
	182016	W27145	Hinged refractor holder	3	1.50
			<b>With 18-inch Radial Bowl Reflector and 8 1/2-inch Holophane Skirted Refractor</b>		
	182017	W27113	Complete unit	23	13.25
	182002	W27141	Porcelain head with socket	8	4.25
	182003	W27143	Unit Consists of 18-in. rad. bowl reflector	4	2.25
	182018	W27170	8 1/2-in. skirted refractor	8	5.25
	182016	W27145	Hinged refractor holder	3	1.50
			<b>With 18-inch Radial Bowl Reflector and 8 1/2-inch Holophane Band Refractor</b>		
	182019	W27115	Complete unit	22	13.25
	182002	W27141	Porcelain head with socket	8	4.25
	182003	W27143	Unit Consists of 18-in. rad. bowl reflector	4	2.25
	182020	W27141	8 1/2-in. band refractor	7	5.25
	182016	W27145	Hinged refractor holder	3	1.50
			<b>With 18-inch Radial Bowl Reflector and Sol-lux Diffuser</b>		
	182021	W27117	Complete unit	20	11.00
	182002	W27141	Porcelain head with socket	8	4.25
	182003	W27143	Unit Consists of 18-in. rad. bowl reflector	4	2.25
	182022	W27172	Sol-lux diffuser	5	3.00
	182016	W27145	Hinged refractor holder	3	1.50
			<b>With 20-inch Radial Bowl Reflector with Extension for Bare Lamps</b>		
	182023	W27119	Complete unit	13	7.00
	182002	W27141	Porcelain head with socket	8	4.25
	182024	W27144	Unit Consists of 20-in. rad. bowl reflector with extension	5	2.75

\*Furnished for 1 1/4-inch pipe at same price.



# WESTINGHOUSE-CUTTER STREETHOOD SOCKETS

## FOR SERIES LAMPS

### REGENT C FILM SOCKETS

Consist of the Regent C Film Sockets and Receptacles. These sockets are for use with porcelain heads Nos. W27195 and W27196 listed below or with other styles of streethoods which are arranged for standard hood forks.



Regent C Film Socket

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
182089	W27050	Recept. mogul base socket and film holder	50	1 1/2	\$1 80
182090	W27051	Same with 3/4-in. hood fork, rigid male nipple	50	1 3/4	2 10
182091	W27052	Same with 3/4-in. hood fork, female thread	50	1 7/8	2 20
182092	W27053	Same with 3/8-in. hood fork, female thread	50	1 3/4	2 20
182093	W27054	Same with 3/8-in. low flange, female thread	50	1 5/8	2 00
182074	W27055	Lamp socket, only with film holder	50	1 1/4	90
182094	W27056	Pkg. of 50 silk films, puncture voltage 300	500 films		75
182095	W27057	Pkg. of 50 impregnated silk films puncture voltage 350	500 films		1 25
202427	W27058	Pkg. of 50 paper films, puncture voltage 250	500 films		50

### STANDARD FILM SOCKETS

Have a porcelain receptacle with wire terminals and spring clips to hold the projecting fingers of the socket part. These fingers hold the dielectric film. The receptacle fits in the porcelain heads Nos. W27195 and W27196. Screws and nuts for holding the receptacle in place are included with the porcelain heads.



Standard Film Receptacle and Mogul Base Socket

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
182096	W21462	Receptacle and socket, mogul screw base	50	1 1/4	\$1 80
182097	W21434	Receptacle only	100	1 1/2	80
182098	W20480	Socket part only, mogul screw base	75	3/4	1 00
182099	W20481	Socket part only, medium screw base	100	1 1/2	70
182100	W21451	Package of 50 films	500 films		2 00

### LAMP GRIP MULTIPLE SOCKETS

Equipped with two vertical springs which engage the threads of the lamp collar, re-enforce the socket shells and relieve the tension. These vertical springs grip the lamp base and prevent the lamp from working loose when subjected to vibration and the contraction and expansion caused by the variations in temperature.

These springs also create an increase of positive contact between the lamp terminal and the socket.

The terminals are easily accessible and very generously designed.



Medium Screw Base Lamp Grip Socket

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
182208	W21400	Medium screw base	200	1	\$0 60
182209	W21402	Mogul screw base	150	1 1/4	80

### PORCELAIN HEADS WITHOUT SOCKETS

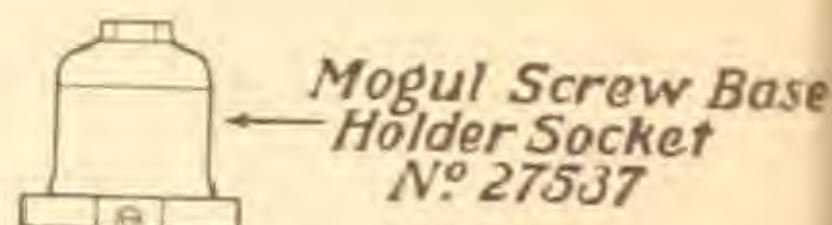
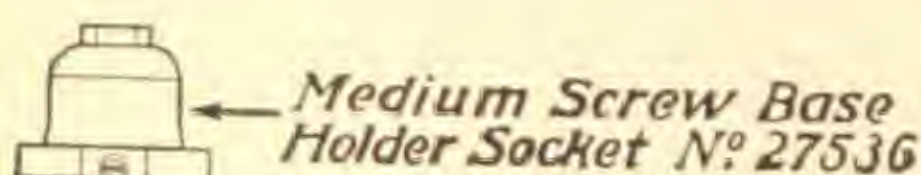
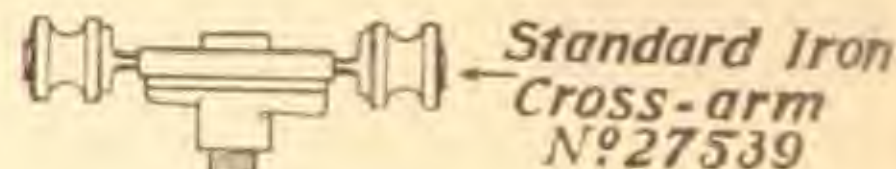
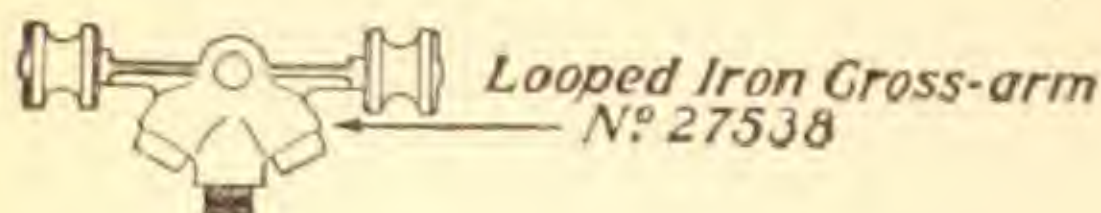
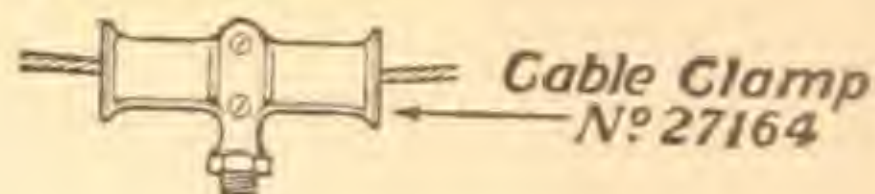
Consist of porcelain body to take either Regent C Film Socket No. W27050 or Standard Film Socket No. W21462, ventilated cast-iron canopy tapped for 3/4-inch or 1 1/4-inch pipe and adapter ring to fit reflectors with 4-inch standard heel.



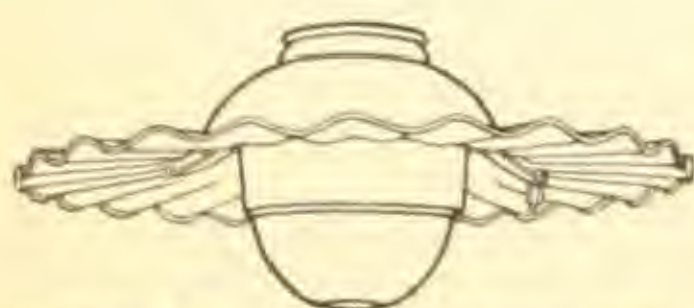
Porcelain Head for Streethood, without Socket

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs. Each	Price Each
182109	W27195	With 3/4-inch canopy, without socket	10	8	\$2 45
182110	W27196	With 1 1/4-inch canopy, without socket	10	8	2 45



WESTINGHOUSE-CUTTER MULTIPLE SUSPENSION  
STREETHOODSSTANDARD PACKAGE QUANTITY, 10  
PARTS FOR MULTIPLE STREETHOODS

International Parts for Multiple Streethood



Trade No.	Mfrs. No.	Description	Wt., Lbs. Each	Price Each
182157	W27536	Medium screw holder socket with cap for 1/2 or 3/4-inch pipe	2	\$2.25
182163	W27537	Mogul screw holder socket with cap for 1/2 or 3/4-inch pipe	4	2.75
182207	W27540	Mogul screw to medium screw adjuster	1 1/2	.75
182013	W27162	20-inch flat radial reflector	5	1.75
182003	W27143	18-inch radial bowl reflector	4	2.25
182024	W27144	20-inch radial bowl reflector with extension	5	2.75
182006	W27166	6 1/2-inch holophane bowl refractor	5	3.00
182009	W27167	6 1/2-inch holophane skirted refractor	5	3.00
182011	W27168	6 1/2-inch holophane band refractor	4	3.00
182015	W27169	8 1/2-inch holophane bowl refractor	9	5.25
182018	W27170	8 1/2-inch holophane skirted refractor	8	5.25
182020	W27171	8 1/2-inch holophane band refractor	7	5.25
182022	W27172	8 1/2-inch Sol-lux diffuser	5	3.00
182007	W27146	6 1/2-inch hinged refractor holder	3	1.50
182016	W27145	8 1/2-inch hinged refractor holder	3	1.50
182178	W27538	Style DX looped iron cross-arm	3	1.50
182060	W27164	Cable clamp	3	.65
182137	W27539	Standard iron cross-arm	3	1.25
182201	W27547	Spreader tip cross-arm	3	1.35
182202	W20399	Iron pulley arm	6	1.95
182203	W20400	Iron brace arm	6	1.00
182204	W20401	Adjusting clamp	1 1/2	.30

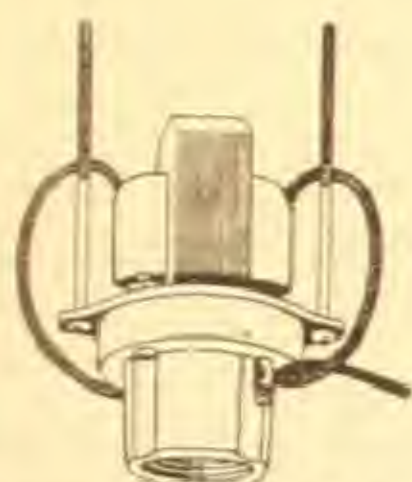


## WESTINGHOUSE-CUTTER ADJUSTER-SOCKET STREETHOOD BODIES

FOR 40 AND 60 Cp. 6.6-AMPERE, 60-CYCLE SERIES MAZDA C LAMPS  
STANDARD PACKAGE QUANTITY, 10



g. W27709, 20-inch Flat, Radial  
Streethood Body



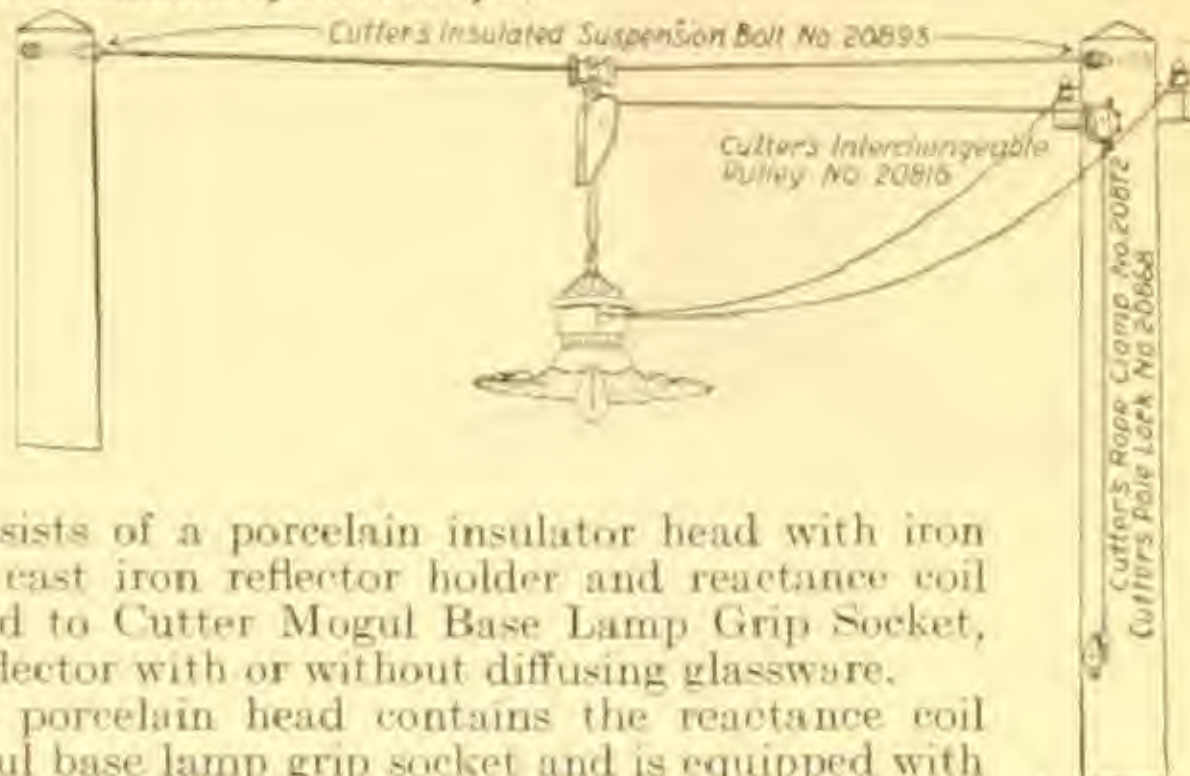
Reactance Coil for 40 and 60-  
w. Lamps, with Mogul Lamp  
Grip Socket



g. W27703, 18-inch Radial Bowl  
Streethood Body with 6 1/2-inch  
Holophane Bowl Refractor



g. W27707, 18-inch Radial Bowl  
Streethood Body with 6 1/2-inch  
Holophane Band Refractor



Consists of a porcelain insulator head with iron canopy, cast iron reflector holder and reactance coil connected to Cutter Mogul Base Lamp Grip Socket, and a reflector with or without diffusing glassware.

The porcelain head contains the reactance coil and mogul base lamp grip socket and is equipped with galvanized iron canopy, painted black. The canopy is threaded for 3/4-inch pipe for fastening to brackets or center suspension fittings, or for 1 1/4-inch pipe. The cast iron reflector holder is designed to give the proper relative position of reflector and lamp.

Reflectors are made of steel, porcelain enameled, reflective white underneath, green on top. The reflector is attached to the reflector holder by means of a 4-inch copper heel which protects the enamel from chipping.

Line wires leading to the streethood are tied to holes in the outer rim of the porcelain, thus eliminating the use of a cross-arm.

### With 18-inch Radial Bowl Reflector

For 3/4-In. Pipe*	Trade No.	Mfrs. No.	Description	Ship. Wt., Lbs. Each	Price Each
	182138	W27701	Complete unit	18	\$13.25
	182139	W27734	Unit { Porcelain head with reactance socket	14	11.00
	182003	W27143	Consists of { 18-in. rad. bowl reflector	4	2.25

### With 18-inch Radial Bowl Reflector and 6 1/2-inch Holophane Bowl Refractor

	182140	W27703	Complete unit	26	17.75
	182139	W27734	Unit { Porcelain head with reactance socket	14	11.00
	182003	W27143	Consists of { 18-in. rad. bowl reflector	4	2.25
	182006	W27166	of { 6 1/2-in. bowl refractor	5	3.00
	182007	W27146	Hinged refractor holder	3	1.50

### With 18-inch Radial Bowl Reflector and 6 1/2-inch Holophane Skirted Refractor

	182141	W27705	Complete unit	26	17.75
	182139	W27734	Unit { Porcelain head with reactance socket	14	11.00
	182003	W27143	Consists of { 18-in. rad. bowl reflector	4	2.25
	182009	W27167	of { 6 1/2-in. skirted refractor	5	3.00
	182007	W27146	Hinged refractor holder	3	1.50

### With 18-inch Radial Bowl Reflector and 6 1/2-inch Holophane Band Refractor

	182142	W27707	Complete unit	22	17.75
	182139	W27734	Unit { Porcelain head with reactance socket	14	11.00
	182003	W27143	Consists of { 18-in. rad. bowl reflector	4	2.25
	182011	W27168	of { 6 1/2-in. band refractor	4	3.00
	182007	W27146	Hinged refractor holder	3	1.50

### With 20-inch Flat Radial Reflector

	182143	W27709	Complete unit	19	12.75
	182139	W27734	Unit { Porcelain head with reactance socket	14	11.00
	182013	W27162	Consists of { 20-in. flat rad. reflector	5	1.75

\*Furnished for 1 1/4-inch pipe at same price.



## WESTINGHOUSE TYPE CI LUXSOLITE FIXTURES



Fixture, with Reflector  
and Sollux Diffuser



Fixture, with Reflector  
and Large Globe

## Application

The Type CI (cast iron) Luxsolite fixtures are used with Westinghouse Mazda C lamps for the lighting of residential streets, parks, and other large outdoor spaces. Their very rugged construction makes them especially useful for the hard service required of street-lighting fixtures—the cast iron case cannot be dented.

The over all weight of the Type CI Luxsolite fixtures has been kept well under that of the standard enclosed arc lamps formerly used, so that no difficulty may be experienced in the use of the same line equipment with the new fixtures.

## Construction

**CASE.**—Cast iron, galvanized, and finished with black asphaltum paint, can suffer no deterioration in any climate. Installations made in the most severe climatic conditions have given four years service without showing any appreciable deterioration.

The cases are very convenient to disassemble, sherardized bolts being used. Binding posts have been provided to meet with the best standards of construction.

**AUTO-TRANSFORMER.**—To secure the full advantage of the high efficiency in the Mazda C lamp a larger current is necessary than is usually available in commercial series circuits. To obtain this current a special auto-transformer of the core type has been designed for the use in series circuits. The standard winding is for 6.6-ampere circuits, with a tap provided for 7.5-ampere circuits, the latter giving approximately the same performance. Windings for other current ratings may be obtained on order. Taps are provided on the standard 1000-candle-power auto-transformer to take care of 600-candle-power 20-ampere lamps, and on the standard 600-candle-power auto-transformer to take care of 400-candle-power 15-ampere lamps.

The insulation of the auto-transformer consists of micarta, and the whole auto-transformer is thoroughly impregnated in bakelite after completion; this gives the auto-transformer excellent heat-resisting properties. The operating temperature of the lamp is high and if the auto-transformer is quite close to it the necessity for its careful insulation with heat-resisting material cannot be overlooked.

**FILM-CUTOUT and MULTIPLE CIRCUITS.**—The Type CI Luxsolite fixture is also supplied with film-cutout sockets or multiple sockets.

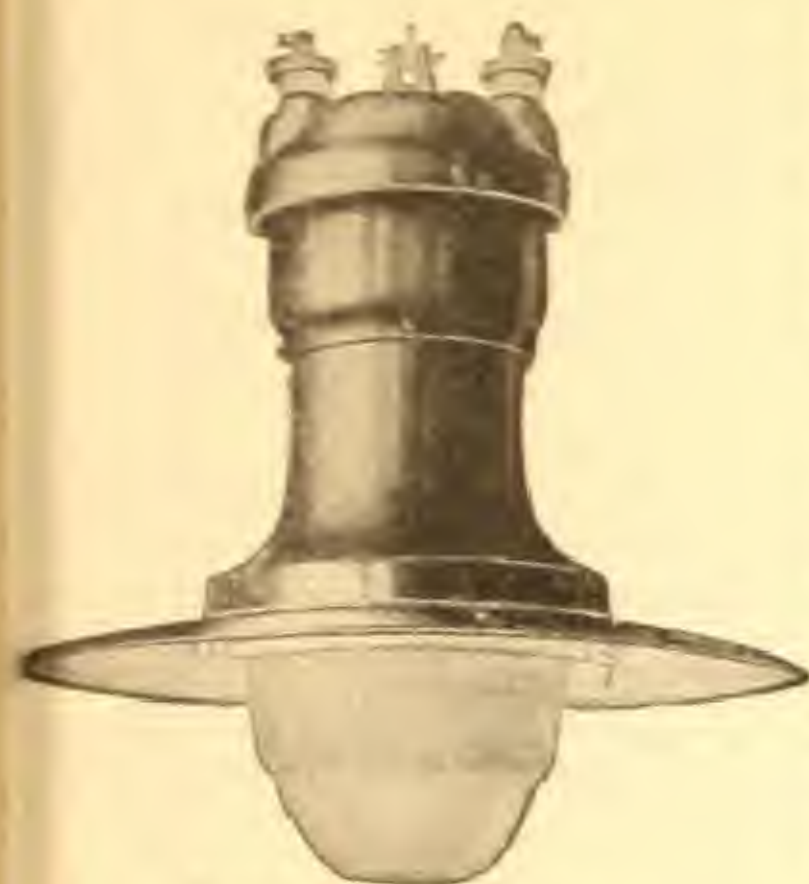
**REFLECTOR.**—A reflector is regularly used and is supplied with the standard fixture but can be omitted if desired.

Continued on the Following Page



# WESTINGHOUSE TYPE CI LUXSOLITE FIXTURES

Continued from the Preceding Page



Fixture with Reflector  
and Skirted Refractor

Glassware similar to that used with other types of Luxsolite fixtures is regularly provided. The large Luxsolite globe used as a standard with the original Luxsolite design is regularly furnished. In some cases a smaller globe, such as the Sollux diffusing globe may be used to advantage, particularly if the candle-power of the lamp is relatively low. The Sollux diffusing globes takes the same holder as the 8½-inch Holophane refractor.

A refractor of the skirted type is recommended where distribution of the nature given by refracting glassware is of advantage. The skirted refractor gives a good distribution of the light close to the horizontal angles and at the same time throws sufficient light on the street beneath the lamp to prevent the dim appearance produced by using the bowl-type refractor. The diffusing skirt cuts off the direct rays of the high intensity filaments, which are exposed when used with the band-type refractor. The skirted refractor thus gives the advantages of both the bowl-type and band-type refractor with comparatively little reduction in candle-power at angles close to the horizontal, or in the over all efficiency of the complete unit.

The refractor support consists of a casting with rugged hinge and catch. The globe bail is an electro-galvanized steel band, painted black.

The casing of the fixture is divided into two chambers by a cast iron partition between the two lower sections. The upper chamber contains the auto-transformer and has openings to permit the circulation of air. The lower chamber contains the socket and lamp and is sealed to exclude dirt and insects when glassware which has no bottom opening (Luxsolite Globe or Skirted Refractor) is used. With these two types of glassware the collection of dirt and dust inside the globe is therefore prevented and the cost of cleaning reduced to a minimum.

## With 400-C. P. Auto-transformer

Grade No.	Mfrs. No.	Glassware	Approx. Ship. Wt. Lbs. Complete with Glassware and Refractor	Price Each
9731	272258	Luxsolite globe	46½	\$28 35
9732	272259	Sollux diffuser	44½	27 30
9733	272260	Skirted refractor	48½	30 80
9734	272261	Bowl refractor	49½	32 20

## With 600-C. P. Auto-transformer

9736	272263	Luxsolite globe	47½	30 45
9737	272264	Sollux diffuser	45½	29 40
9738	272265	Skirted refractor	49½	32 90
9739	272266	Bowl refractor	59½	34 30

## With 1000-C. P. Auto-transformer

9741	272268	Luxsolite globe	50	33 35
9742	272269	Sollux diffuser	48	32 30
9743	272270	Skirted refractor	52	35 80
9744	272271	Bowl refractor	53	37 20

## With Series Regent—Film-Cutout Socket for Lamps of 50 to 600 Candle-power

9746	272253	Luxsolite globe	37	21 10
9747	272254	Sollux diffuser	35	20 05
9748	272255	Skirted refractor	39	23 55
9749	272256	Bowl refractor	40	24 95

## With Multiple Mogul Socket for Lamps of 300 to 500 Lamps

9751	272273	Luxsolite globe	37	20 25
9752	272274	Sollux diffuser	39	19 20
9753	272275	Skirted refractor	39	22 70
9754	272276	Bowl refractor	40	24 10

Manufacturer's number and price include fixture complete with 6.6—7.5-ampere primary auto-transformer, series (Regent) film cut-out socket, or large Edison-base multiple socket, as described, complete with reflector and glassware.



## COLUMBIA CARBONS

## WHITE A. C. SPECIAL MOVING PICTURE CARBONS

## Alternating Current

Trade No.	Description	Price, per 100 Sets	Trade No.	Description	Price, per 100 Sets
125077	$\frac{5}{8}$ -inch combination	\$32 00	125079	$\frac{7}{8}$ -inch combination	\$50 00
125078	$\frac{3}{4}$ -inch combination	40 00			

## COLUMBIA PROJECTOR CARBONS, FOR MOVING PICTURE MACHINES

## Direct Current

Trade No.	Size Inches	Description	PRICE, PER 1000		Trade No.	Size Inches	Description	PRICE, PER 1000	
			Less than 1000 Lots	1000 Lots or More				Less than 1000 Lots	1000 Lots or More
206462	$\frac{1}{2}$ x12	Cored	\$105 60	\$96 00	206467	$\frac{5}{16}$ x6	Silvertip solid	\$99 00	\$90 00
206463	$\frac{5}{8}$ x12	Cored	143 00	130 00	206468	$\frac{11}{16}$ x6	Silvertip solid	104 50	95 00
206464	$\frac{3}{4}$ x12	Cored	189 75	172 50	206469	$\frac{3}{8}$ x6	Silvertip solid and cored	110 00	100 00
206465	$\frac{7}{8}$ x12	Cored	258 50	235 00	206470	$\frac{7}{16}$ x6	Silvertip cored	121 00	110 00
206466	1 x12	Cored	330 00	300 00					

## PROPER COMBINATIONS FOR BEST RESULTS

## White A. C. Special—Alternating Current

Amperes	Description	Amperes	Description
40 or less than 60	$\frac{5}{8}$ -inch combination	75 or less than 100	$\frac{7}{8}$ -inch combination
60 or less than 75	$\frac{3}{4}$ -inch combination		

## White A. C. Special—Direct Current

Amperes	Description
25 to 50	$\frac{5}{8}$ x12 inches Columbia cored upper
50 to 65	$\frac{5}{16}$ x6 inches Columbia silvertip solid lower
65 to 70	$\frac{3}{4}$ x12 inches Columbia cored upper
70 to 85	$\frac{11}{16}$ x6 inches Columbia silvertip solid lower
85 to 100	$\frac{7}{8}$ x12 inches Columbia cored upper
	$\frac{3}{16}$ x6 inches Columbia silvertip lower
	$\frac{7}{8}$ x12 inches Columbia cored upper
	$\frac{3}{8}$ x6 inches Columbia silvertip solid lower
	1x12 inches Columbia cored upper
	$\frac{7}{16}$ x6 inches Columbia silvertip cored lower

## CARBON SAVERS AND SILVERTIP ADAPTERS

For use in burning up stubs of carbons which would otherwise be destroyed.

Trade No.	Description	Price Each
206471	Carbon saver for upper holder	\$1 25
206472	Silvertip adapter for lower holder	1 25

COLUMBIA ENCLOSED ARC CARBONS  
FOR DIRECT OR ALTERNATING CURRENT

## Solid

Trade No.	Dimensions Inches	PRICE, PER 1000	
		Less than 1000 Lots	1000 Lots or More
041622	$\frac{1}{2}$ x9 $\frac{1}{2}$	\$52 55	\$42 65
041620	$\frac{1}{2}$ x12	66 25	53 75
206473	$\frac{1}{2}$ x16	114 25	91 80

## Cored

Trade No.	Dimensions Inches	Less than 1000 Lots	1000 Lots or More
041634	$\frac{1}{2}$ x9 $\frac{1}{2}$	59 05	47 90
041632	$\frac{1}{2}$ x12	74 55	60 50
206474	$\frac{1}{2}$ x16	131 35	105 50

Prices of other sizes on request.  
All carbon prices F.O.B. Toronto.

Sizes 6, 7, 8  
for raising and  
The colored



# ARC LAMP CHAIN AND CORDAGE

## AMERICAN GALVANIZED CHAIN



Trade No.	Size No.	Description	Tensile Strength Lbs.	Wt., Lbs. per 1000 Ft.	Price per 100 Ft.
33938	31	For suspending heavy street fixtures	915	126 1/4	\$8.50
33939	33	For suspending medium street fixtures	735	110	8.25
33940	35	For suspending light street fixtures	553	75	7.50

## Galvanized Attachments

Trade No.	Description	Price per 100
33941	Hook for No. 31 chain	\$6.00
33942	Hook for No. 33 chain	5.00
91253	Hook for No. 35 chain	3.60
91254	Ring for No. 31 chain	7.50
91255	Ring for No. 33 chain	7.50
91256	Ring for No. 35 chain	4.50
91257	Connecting link for No. 31 chain, per 1000 sets	3.00
91258	Connecting link for No. 33 chain, per 1000 sets	3.00
91259	Connecting link for No. 35 chain, per 1000 sets	1.50

Packed on 500 or 1000-foot reels.

## GALVANIZED ARC LAMP CORD



Trade No.	Diam. Inches	Weight per Foot Pounds	Approx. Breaking Stress in Lbs.	Con- struction	Price per 100 Feet	Trade No.	Diam. Inches	Weight per Foot Pounds	Approx. Breaking Stress in Lbs.	Con- struction	Price per 100 Feet
044673	1 1/2	335	4700	9x7	\$14.00	044676	5/16	107	1530	9x4	\$7.00
044674	3/8	245	3400	9x7	12.00	044677	1/4	77	1125	9x4	5.50
044675	3/8	163	2200	9x7	10.00						

## SAMSON SPOT CORD

Solid Braided Cotton, Waterproof Finish.



Trade No.	Size No.	Diam. Inches	Approx. Lbs. to 1200 Feet	Approx. Feet Std. Coil	Price per Lb.	Trade No.	Size No.	Diam. Inches	Approx. Lbs. to 1200 Feet	Approx. Feet Std. Coil	Price per Lb.
33936	6	3/16	21	1200	\$1.50	044680	10	5/16	50	1200	\$1.50
33937	7	3/16	26	1200	1.50	044681	12	3/8	70	1200	1.50
44678	8	1/4	32	1200	1.50	044682	14	7/16	100	1200	1.50
44679	9	9/32	40	1200	1.50	044683	16	1/2	125	1200	1.50

Sizes 6, 7, 8, 9, 10 and 12 are most commonly used for trolley cord, and sizes, 12, 14, and 16 for raising and lowering arc lamps.

The colored spots are a trade mark used only with this extra quality.

## MANILA ROPE

Manila, sisal and jute ropes weigh about alike. Tarred hemp cordage will weigh about one fourth more. The relative strength of manila to sisal is about as 7 is to 5.



Trade No.	Diam. Inches	Circumference Inches	No. of Feet in 1 Pound	Length Feet	Weight Pounds	Strength Pounds
33929	1/4	6 thd. fine	55	2600	50	620
33930	5/16	9 thd. fine	41	1870	55	1000
33931	3/8	12 thd. fine	26	1690	65	1275
33932	1/2	1 1/2	13 1/2	1200	92	2400
33933	5/8	1 3/4	10	1200	130	3300
33934	3/4	2	7 1/2	1200	160	4000
33935	3/4	2 1/4	6	1200	200	4700



## BETTS THERMO-WYNK FLASHERS



Wynk-A-Lyte No. 005V Flasher



No. 005R Flasher



No. 030 Flasher



Thermo-Wynk-Tu-Way Flasher



Vacu Type Flasher

All B & B Flashers are made with compensated thermostats thus not affected in the slightest by temperature changes. The contacts are platinum-iridium. It should be noted that the slow breaking thermal types are only rated up to 660 watts, as it has been found that this type is not practical for large capacities. B & B Flashers are guaranteed broadly and the ratings are ultra conservative. Automatic flashers can be furnished for every condition.

## WYNK-A-LYTE FLASHING PLUGS

Nos. 005P (60 WATTS) AND 010P (100 WATTS)

The same element is used in the plug flasher as in the other types. It is adjustable and arranged to compensate for temperature changes. The capacity ranges from 20 to 60 watts.

## Nos. 005 AND 005R BABY TYPES

This type is furnished with or without receptacle for lamp. When desired without, order No. 005; when desired with receptacle order No. 005R. Baby flashers are designed especially for small one-lamp display signs.

## No. 005V VERTICAL TYPE

The No. 005V type is for use where it is impractical to install another type.

## Nos. 010 TO 030

Nos. 010 and 020 are similar but smaller than the No. 030 110-125 Volts

Trade No.	Mfrs. No.	Watts	Price Each	Trade No.	Mfrs. No.	Watts	Price Each
122476	005P	60	\$1.50	122480	010	110	\$1.40
122497	010P	100	1.75	122482	020	220	2.40
122477	005	60	1.00	122484	030	330	5.00
122478	005R	60	1.25	122499	040	440	5.50
122498	010R	100	1.50	122500	050	550	6.75
122479	005V	60	1.15	122501	060	660	7.50

All flashers of 330 watts capacity and over are equipped with condensers to minimize arcing.

## THERMO-WYNK-TU-WAY FLASHERS

The Tu-Way will flash two lamps or two circuits of lamps alternately—one set remaining lighted while the other is out, and so on. The action is positive.

## 110-125 Volts

Trade No.	Mfrs. No.	Watts	Price Each	Trade No.	Mfrs. No.	Watts	Price Each
122494	0152	165	\$10.90	122503	0402	440	\$14.50
122502	0302	330	12.35	122504	0502	550	15.95

For 6, 8, 32, 220 or 250 volts add 30 per cent to above prices.

Wattage capacity on 220 to 250 volts is reduced 50 per cent and on voltages less than 100, the capacity is also reduced in proportion to the decrease in voltage.

## VACU TYPE FLASHERS

This type is used for flashing heavy loads ranging from 330 watts to 2640 watts, single or double circuit. These flashers are guaranteed for one year. The arc is disrupted in a vacuum tube of mercury, hence the name.

Flashers are furnished with approved steel box.

## Single Circuit, 110-125 Volts

Trade No.	Mfrs. No.	Amps.	Watts	Dimensions Inches	Net Wt. Lbs.	Price Each
122485	51V	5	550	3 1/2 x 7 x 14	10	\$26.00
122486	101V	10	1100	3 1/2 x 7 x 14	10	28.00
122487	151V	15	1650	3 1/2 x 7 x 14	10	33.00
122488	201V	20	2200	3 1/2 x 7 x 14	10	35.00

## Double Circuit, 110-125 Volts

Trade No.	Mfrs. No.	Amps.	Watts	Dimensions Inches	Net Wt. Lbs.	Price Each
122489	52V	5	550	3 1/2 x 7 x 14	10	28.00
122490	102V	10	1100	3 1/2 x 7 x 14	10	30.00
122491	152V	15	1650	3 1/2 x 7 x 14	10	35.00
122492	202V	20	2200	3 1/2 x 7 x 14	10	37.00

All B & B Flashers are approved by the Underwriters.



# BETTS ELECTRIC SIGN FLASHERS



No. 15-1 with Cabinet

These flashers are made to produce any known flashing effect. Every contact is equipped with interchangeable contact sectors, permitting time adjustments or complete flashing changes. These sectors, in connection with interchangeable brush holders, make it comparatively easy to rebuild the flasher completely for different effects.

Guaranteed for two years and approved by the National Board of Fire Underwriters.

## ON-AND-OFF OR SPELLING TYPES

These machines are used to flash one or more circuits, such as a whole sign on and off, varied color effects, spelling a word, etc.

Capacity, per Switch, D.C., 440 Watts—A.C., 550 Watts

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each Without Motor	Steel Cabinets Extra
15945	5-1	1	11x13x13	67	\$18.00	\$14.15
15946	5-2	2	11x13x13	68	20.00	14.15

For each additional switch or feeder, add \$2.00 to list.

Capacity, per Switch, D.C., 880 Watts—A.C., 1100 Watts

15947	10-1	1	11x13x13½	69	21.00	14.15
15948	10-2	2	11x13x15½	70	24.00	14.15

For each additional switch or feeder, add \$3.00 to list.

Capacity, per Switch, D.C., 1300 Watts—A.C., 1620 Watts

15951	15-1	1	11x13x14	71	24.00	14.15
15952	15-2	2	11x13x16	72	28.00	14.15

For each additional switch or feeder, add \$4.00 to list.

NOTE.—Do not allow more than 15 amperes (1650 watts) at 110-220 volts for any one switch. Heavier loads should be divided among two or more switches. Where several switches are used there is an extra charge for feeders, etc.



No. 4 Heavy, High Speed

## HIGH SPEED TYPE

This flasher will produce revolving wheels, turning borders, flames, dust, smoke, running water, waving flag, etc. Usually wired in four circuits or a multiple of four: 1, 2, 3, 4,—1, 2, 3, 4, etc. All the one's are on the first circuit, the two's on the second circuit, the three's on the third circuit and the four's on the fourth circuit.

NOTE.—For flags it is preferable to order a special flag flasher at a slight additional cost. The effect is much better.

Capacity, per Switch, D.C., 250 Watts—A.C., 330 Watts

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each Without Motor	Steel Cabinets Extra
15955	4-HS	4	11x13x16	72	\$24.00	\$14.15
15959	8-HS	8	11x13x22	78	36.50	18.15

Each additional switch or feeder, add \$2.50 to list.

Capacity, per Switch, D.C., 500 Watts—A.C., 660 Watts

15956	4-HHS	4	11x13½x19	77	32.00	15.80
15960	8-HHS	8	11x13½x28	85	52.00	20.80

Each additional switch or feeder, add \$4.00 to list.

## MOTORS FOR ABOVE FLASHERS

Trade No.	Description	Price Each
15957	110-120-volt D.C. motor.....	\$20.00
15958	60 cycle A.C. motor.....	20.00



## BETTS ELECTRIC SIGN FLASHERS

## SNAKE CHASER TYPE

This type is used for producing crawling snakes, chasing rats, jumping rabbits, and similar effects. The number of circuits should be a multiple of the number of snakes, or other objects employed; for example, 60 lamps, 3 snakes, would require 20 circuits. Wire accordingly.

Capacity, 250 Watts per Circuit at 110-120 Volts

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each— With 110 V. D. C. or 60-cycle Motor	Steel Cabinet Extra
101286	10SC	10	11x13x22	77	\$63.00	\$18.15

For each additional switch or feeder add \$2.50 to list.

## LIGHTNING TYPE



No. 6 Lightning Type

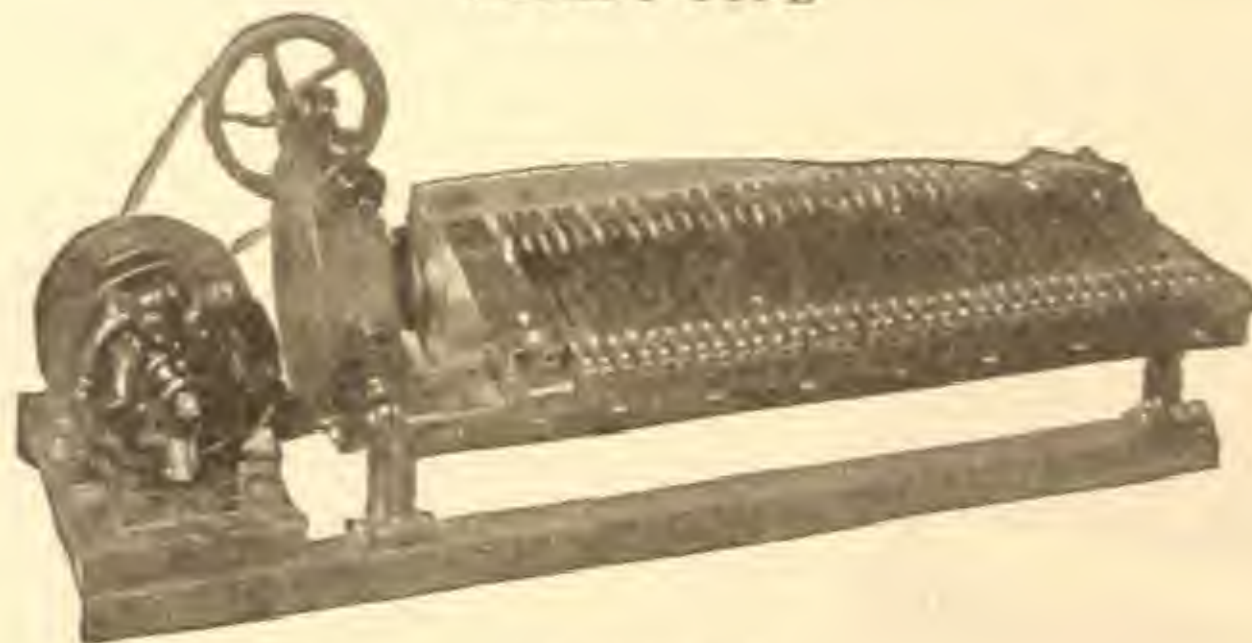
The method of wiring depends upon length of each stroke, also the streak. Usually each stroke is on a separate circuit.

D. C., 250 Watts per Switch—A. C., 330 Watts per Switch

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each— With 110 V. D. C. or 60-cycle Motor	Steel Cabinet Extra
101287	4 L	4	11x13x16	72	\$51.00	\$14.15

For each additional switch, add \$2.50 to list.

## SCRIPT TYPE



No. 35 Script

Designed for writing on a word one or more lamps at a time, skyrockets, shooting stars, fireworks, etc.

Capacity, 110 Watts per Switch at 110 Volts

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each— With 110 V. D. C. or 60-cycle Motor	Steel Cabinet Extra
101288	10S	10	11x13x15½	66	\$55.00	\$14.15

For each additional switch add \$1.25 to list. 26 or more circuits, \$1.50 per switch.

NOTE.—Carrying capacity of 220-volt flashers is 50 per cent less. Add for 220-volt motors: D. C., \$2.00; A. C., \$2.00. A. C. motors are 60 cycles. For 25 to 50 cycles, add \$6.00.

## INSTRUCTIONS FOR ORDERING

Be sure to specify number and candle power of lamps to be controlled by each switch. Whether Mazda or carbon lamps. If Mazda, whether they are to be used on low voltage transformer.

Kind of current, whether direct or alternating. If alternating, give the number of cycles. Whether two or three-wire system. Voltage.

If design is complicated, give complete description of the sign, and preferably a sketch showing number of lamps per circuit and how they are to be flashed.

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Plug



## NORTHERN ELECTRIC IRONS AND PLUGS

### IRONS



Iron

The long torpedo nose is shaped to a perfect point so that the ironer can see and easily reach the tucks, pleats, etc.

The asbestos pad between the heating element and the pressure plate is an economical feature, as it directs and retains the heat in the bottom of the iron. It keeps the top of the iron cool by preventing the heat from rising. Less current is therefore needed.

The round corners will not catch in ruffles, pleats, pockets, etc., thereby preventing damage and saving time and patience.

The round heel glides over the fabric on the back stroke. It cannot catch or tear nor pull anything out of shape and is invaluable when ironing cuffs and collars, lace and other fancy articles.

Monel metal contacts completely eliminate a most frequent cause of trouble; the burning out of plugs through arcing and poor contact.

The handle is raised slightly in front to conform to the natural position of the hand when ironing. Nothing will cause an aching wrist more quickly than hand ironing, if the hand is held in an awkward strained position.

This iron is perfectly balanced. To appreciate the importance of this, count the number of times you move your arm back and forth in doing the average ironing. Then think of the comfort a perfectly balanced iron will give.

### Other Features

- Roomy curve in handle strap.
- Space under handle strap.
- Uniform Canadian mica insulation.
- Sole plate machine milled top and bottom.
- Flexible ribbon terminal connectors.
- Special plugs in handle prevent loosening.
- Highly polished, heavily nicked throughout.
- Double cup washers holding handle strap.
- Full shaped balanced pressure plate.
- Specially designed ribbon element.
- Mica spacer between connectors.
- Large cool handle.
- Highly polished large ironing surface.



Plug

Trade No.	Description	Wt. Lbs.	Approx. Ship. Wt. Lbs.	Price Each
206765	Complete with 6-foot cord and stand	6	7½	\$6.75

### PLUGS

Trade No.	Description	Price Each
206766	Northern Electric plug	\$0.60



## CANADIAN BEAUTY HEATING DEVICES



No. 102

## TRAVELERS' IRONS

No. 102 has the up-to-date features of the Domestic Iron, No. 90; has opening at back for inserting curling tongs, complete with flat stand, cord and plug.

Trade No.	Mfrs. No.	Wt. Lbs.	Price Each
205707	102	3	\$6.50



Nos. 103-110

## TAILORS' IRONS

Made in all convenient sizes from 10 to 25 pounds inclusive. Element wound on finest grade mica, gives long life, quick heating. Finished all over in highest polished nickel.

205708	103	10	18.00
205709	110	25	25.00



No. 210

## No. 210 TOASTERS

Has heavy base, won't tip, ebonized feet; has convenient toast rack, easy to handle. Element has graduated winding on finest grade mica, new terminals, gives even heat, long life, simple renewals, toasts two slices at once.

Trade No.	Mfrs. No.	Description	Price Each
205710	210	Upright Toaster.	\$7.50



No. 235

## ROUND TOASTER STOVES

## Without Pan

A handy stove in the popular round shape. Has same large cooking surface as Canadian Beauty Grill, same standard elements. Reflector removable for cleaning. Specially designed for light cooking, heating water, etc.

Trade No.	Mfrs. No.	Price Each
205711	235	\$8.00



No. 201

## FLAT RECTANGULAR TOASTER STOVES

Designed for use where customer wants a toaster that will also heat a kettle and where low cost is a consideration. Has removable bottom for cleaning.

Trade No.	Mfrs. No.	Price Each
205712	201	\$6.50



## CANADIAN BEAUTY HEATING DEVICES



No. 402

### GRILLS

#### Three-heat, Colonial Rim

Largest cooking surface, over 12 square inches more than any other grill. Independent rim, keeps cool, retains finish, heating element easily removed. Simplest system of heat control, fool-proof, uses the standard Canadian Beauty Plug. Each grill has reflector plate, deep pan, capacity two quarts and shallow pan, capacity one quart. Finish, highly polished nickel.

Trade No.	Mfrs. No.	Price Each
205713	402	\$13.50



No. 415

### TOASTER STOVES

These stoves are designed for permanent installation where auxiliary cooking capacity is required. The element is a reflector type and attains full working temperature very quickly. Reflector plates are double, with air insulating space and are easily removable for cleaning. Elements have three heat, controlled by snap switches. Entire stove is finished in highly polished nickel. Each element has maximum demand of 880 watts.

#### No. 415 Single Plate

Trade No.	Mfrs. No.	Price Each
205714	415	\$14.00

#### No. 425 Double Plate

Trade No.	Mfrs. No.	Price Each
205715	425	25.00



No. 430

### DISC STOVES

#### With Enclosed Elements

Has high grade heating elements, easily removable. Finished in highly polished nickel.

Trade No.	Mfrs. No.	Size Inches	Price Each
205716	430	4 1/2	\$6.00
205717	431	6	7.00

### CURLING-TONG HEATERS

Has heating element of highest quality alloy and mica, mounted on brass heating tube and encased in beautifully finished holder. Takes any ordinary curling tongs, one pair heats while other pair is in use. Base is of slate with protective felt bottom.



No. 501

Trade No.	Mfrs. No.	Price Each
205718	501	\$6.00



## MAJESTIC ELECTRIC HEATERS



No. 7



No. 8



No. 5

## No. 7

A strong, compact heater, with properly balanced and highly polished nickel base. Can be carried from room to room and placed anywhere where instantaneous heat is desired.

Fitted with one heating element, consuming only 615 watts per hour.

Highly polished pure copper parabolic reflector.

Supplied with 8-foot cord, attachment plug and feed-through switch. This switch enables you to turn the heater on and off as desired without disconnecting same from the socket receptacle.

Trade No.	Mfrs. No.	Price Each
205719	7	\$11.00

## No. 8

A strong, compact heater with heavy base, which can be carried from room to room and placed anywhere where instantaneous heat is desired. Fitted with two heat units, consuming 960 watts per hour.

Strongly made and finished with highly polished nickel base and a parabolical reflector of pure polished copper.

Supplied with 8-foot cord.

Trade No.	Mfrs. No.	Height Inches	Diam. Reflector, In.	Wt. Lbs.	Price Each
205720	8	18½	13½	7	\$16.00

## No. 5

This handy heater can be carried to any room. Economy, stability and low cost of upkeep. Supplied with 8-foot cord.

Trade No.	Mfrs. No.	Dimensions Inches	Wt. Lbs.	Price Each
205721	5	21½x13¾x9¾	11¼	\$20.00

## No. 30

This grate finished in brass, nickel or copper is a very handsome equipment in any room. The temperature of the room may be quickly regulated by turning on one, two or three heat units as desired.

Trade No.	Mfrs. No.	Size Inches	No. Heats	Watts	Price Each
205722	30	24x30	3	1850	\$40.00

## No. 35

In this heater the logs are so arranged that either one, two or three heat units may be turned on, as required. In this manner the heat of the room can be regulated to the desired temperature. The logs are made of durable material.

205723	35	18x10x2	3	40.00
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This price does not include andirons.



No. 30



No. 35



MANNING-BOWMAN HEATING DEVICES



No. 182945



No. 130930

COFFEE PERCOLATORS

No. 182945

Nickel-plated

This set consists of four pieces—percolator, creamer, sugar and tray. Percolator has mahoganite handles; 16-inch tray, and creamer is gold lined. Shipping weight, 12½ pounds.

Trade No.	Mfrs. No.	Capacity Cups	Watts	Price Each
204547	182945	9	400	\$63.00



No. 13093

No. 130930

Nickel-plated

This set consists of four pieces—percolator, tray, and gold lined sugar and creamer. Percolator has ebonized handles. Height of urn, 15 inches; 20-inch tray.

Trade No.	Mfrs. No.	Capacity Cups	Watts	Price Each
204543	130930	9	400	\$73.00



No. 18293

SUGAR, CREAMER, AND TRAY

Trade No.	Mfrs. No.	Description	Price Each
204544	3091E	Sugar	\$9.00
204545	3091E	Cream	9.00
204546	11020	Tray	16.00

COFFEE PERCOLATORS

No. 13093

Trade No.	Mfrs. No.	Capacity Cups	Watts	Height Inches	Ship. Wt. Lbs.	Price Each
204548	13093	9	400	15	5½	\$39.50

No. 18293

204549	18293	6	400		5	30.00
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No. 18294

204550	18294	9	400		5¼	33.00
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No. 11893

204551	11893	6	400		4½	27.00
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No. 11894

204552	11894	9	400		4¾	29.00
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No. 11793

204553	11793	7	400		4¼	20.00
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All devices are equipped with a detachable plug, and 6 feet of cord.



No. 11893



No. 11793



## MANNING-BOWMAN HEATING DEVICES



Set No. 182940



Nos. 12992 and 12993



No. 12093



No. 12793

## PERCOLATOR SET No. 182940

This set consists of four pieces—percolator, creamer, sugar and tray. Percolator has mahoganite handles. Sugar and creamer are gold lined.

Trade No.	Mfrs. No.	Capacity Cups	Watts	Price Each
68034	182940	9	400	\$50.00



Nos. 11592 and 11593



No. 11093



Nos. 11492 and 11493



No. 14767

## PERCOLATORS

Made from heavy copper, relined inside. Nickel-plated. Non-heating wood handle. Has cold water valve which insures perfect coffee before the water boils.

## Nos. 12593 and 12594

Trade No.	Mfrs. No.	Capacity Cups	Watts	Price Each
151101	12593	6	400	\$27.00
151102	12594	9	400	30.00

## Nos. 12992 and 12993

151105	12992	6	400	24.00
151106	12993	8	400	25.00

## No. 12093

151111	12093	7	400	27.00
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## No. 12793

68042	12793	7	400	24.50
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## Nos. 11592 and 11593

153073	11592	6	400	22.00
153074	11593	9	400	23.50

## No. 11093

153071	11093	7	400	22.00
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## Nos. 11492 and 11493

153065	11492	6	400	19.00
153066	11493	8	400	20.50

## KETTLES

## No. 14767

Nickel-plated, mahoganite handle.

Trade No.	Mfrs. No.	Capacity Pints	Watts	Price Each
151162	14767	3	360	\$21.50

All devices are equipped with a detachable plug, 6 feet of cord and lamp socket connection.

Always Specify Voltage when Ordering



## MANNING-BOWMAN HEATING DEVICES



No. 1304-64



No. 1300-57



No. 1298-54

### CHAFING DISHES

Nickel-plated, polished copper, or silver-plated, capacity of chafing dish 3 pints, diameter of stove 6 inches. Consumes 550 watts. These dishes are equipped with 3 heat detachable stoves. Either hot water or food pan can be used separately for cooking. This cannot be done where heating element is attached to hot water pan.



No. 1302-63

#### No. 1304-64

Mahogany finished knob and handles.

Trade No.	Mfrs. No.	Finish	Price Each
151140	1304-64	Nickel-plated	\$26.25
69061	1304-64	Polished copper	28.50

#### No. 1300-57

Mahogany finished knob and handles.

151146	1300-57	Nickel-plated	26.25
69062	1300-57	Polished copper	28.50

#### No. 1298-54

Ebonized wood knob and handles.

151148	1298-54	Nickel-plated	24.75
69063	1298-54	Polished copper	27.00

#### No. 1302-63

Mission style, ebonized wood knob and handles.

151142	1302-63	Nickel-plated	25.50
69064	1302-63	Polished copper	27.75
151143	1302-63	Silver-plated	33.75



No. 1303-64

#### No. 1303-64

Colonial design. Mahogany finished knob and handles.

151144	1303-64	Nickel-plated	28.50
69065	1303-64	Polished copper	30.75
151145	1303-64	Silver-plated	36.75

### WATER HEATERS

Designed for heating water, milk, broths, etc., during the day or night, especially in the nursery or sick room. Can be attached to any lamp socket and will boil a cup of water in 3 minutes.



Nos. 19 and 20

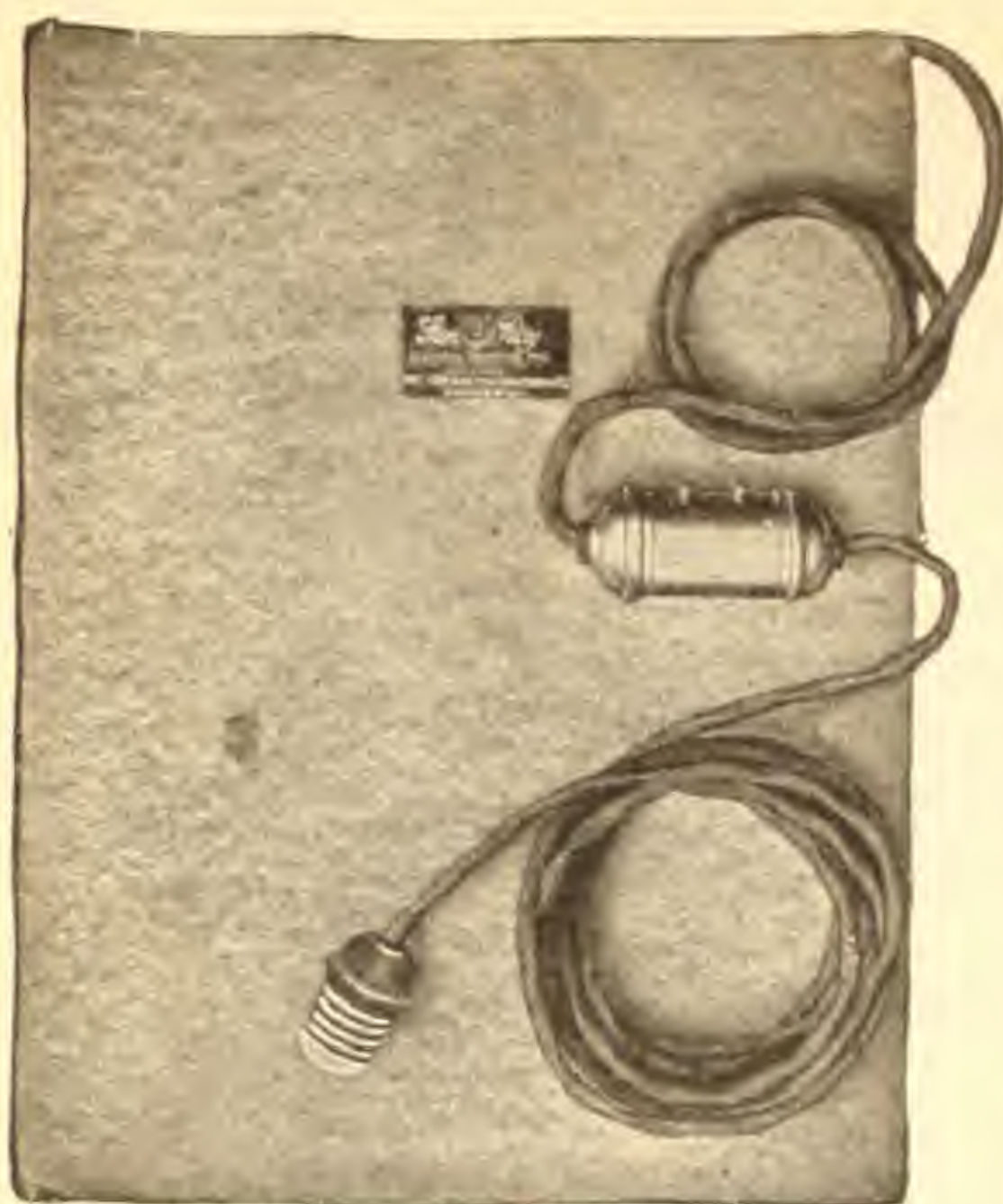
Trade No.	Mfrs. No.	Cap. Pints	Description	Price Each
151159	19	2	Without egg holder, nickel-plated, 400 watts.	\$15.00
151160	20	2	With egg holder, nickel-plated, 400 watts.	16.50

All devices are equipped with a detachable plug, 6 feet of cord, and lamp socket connection.

Always Specify Voltage When Ordering



## HEATING DEVICES



The Sun-Ray three-heat pad weighs 18 ounces complete with cord, plug, switch and outer slip-over cover. The pad with slip-over cover weighs 8 ounces.  
Size of pad, 12x15 inches.

Trade No.	Description	Price Each
202470	Single-heat, 100-125 volt, A. C. or D. C.	\$8.00
202471	Three-heat pad, 100-125 volt A. C. or D. C.	8.50
202472	32-volt pad	9.00
202473	220-volt pad A. C. or D. C.	9.00
202474	Sanitary rubber cover	1.00



## WIRT HEATING PADS

Heating pads which by reason of their construction may become unsanitary and cannot be easily cleaned are to be avoided. Used as they are, in cases of sickness and in direct contact with the body, they must be hygienic.

The slip-on cover furnished with this pad is easily removed. It protects the pad and may be removed and washed.

The Wirt Heating Pad is sanitary, washable; has even heating surface and flexible smooth cover.

Will not overheat and the rubberized fabric makes it impervious to moisture.

Furnished with 8 feet of cord, attachment plug and a slip connector.

Trade No.	Mfr. No.	Description	Size Inches	Price Each
202475	55-W	Heating Pad	10x14	\$7.50



## ROYAL VIBRATORS AND HAIR DRIERS

### ROYAL VIBRATORS

#### Type No. 2

Intended for professional use, having a more powerful motor than the No. 1 outfit, and is equipped with a patented speed controlling device. The motor in this machine is enclosed in an aluminum case, highly polished. The deep penetrating vibrations procured by this vibrator make it particularly suitable for cases requiring energetic treatment.

Furnished complete with six high grade applicators, 8 feet of re-enforced specially made multiple strand unbreakable lamp cord, oiler and handsome leatherette carrying case lined with tufted silk.



Royal No. 2

Trade No.	Description	Price Each
107995	No. 2 outfit complete	\$30.00

#### Type No. 3

The essential difference between this machine and Type No. 2 is in the design and construction of the aluminum body casting. The matchless efficiency of the Royal No. 3 under all conditions, its great power and durability, its perfect mechanical balance and smooth running qualities have never been surpassed. The No. 3 is also equipped with a patented speed controlling device.

Furnished complete with same equipment as No. 2 but with seven applicators instead of six.



Royal No. 3

27010	No. 3 outfit complete	32.50
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A booklet of instructions is furnished with all above vibrators.

### ROYAL HAIR DRIERS

Just the machine for barber shops, hair dressing and beauty parlors and a positive luxury in the home. The action of this machine is so quick, so effective and so satisfactory in every way that the heaviest head of hair can be dried thoroughly in a very few minutes. The machine furnishes both hot and cold air, and is equipped with a patented speed control so essential in a machine of this nature, thus giving air blasts ranging from the mildest to the most powerful and changing temperature at will.

The body of the hair drier is made of highly polished aluminum.

An ideal drier for shoe shining stands where a high-grade serviceable machine is required. This drier is built to meet the most exacting demands, and with the average amount of care will give years of service on shoe shining stands. The clamping device enables the operator to attach the drier instantly to the foot rest, leaving both hands free to perform other duties.

Furnished complete with 8 feet of cord and oiler.



Hair Drier

Trade No.	Description	Price Each
107992	Complete, as described	\$27.50
107993	Carrying case for drier	3.50
107996	Clamp for shoe shining stand	3.00
107997	Adjustable stand for drier	6.50



Shoe Drier Attachment



## BRANSTON VIOLET RAY HIGH FREQUENCY GENERATORS



No. 9



No. 7



No. 12

## TELEPHONE MODEL No. 9

This is a small compact machine made specially to meet the requirements of barber shops and beauty parlors. It can be used equally well in the home. Hangs anywhere; looks like a telephone. Simply take down the handle and turn the knob. Always ready for use in any position.

Finished in seal grain Keratol, size  $8\frac{3}{4} \times 6\frac{1}{8} \times 2\frac{1}{8}$  inches. Equipped complete with one No. 1 and one No. 2 electrode, and full set of instructions. Fully guaranteed for one year.

This generator is wound to operate on either direct or alternating current, 100-120 volts.

Trade No.	Description	Price Each
100475	Complete as described	\$25.00
	For 32 volts or 220 volts, add \$3.50.	

## No. 7

This generator is giving satisfaction in thousands of homes at the present time, and is made especially strong for all treatment work. It can be regulated to give the mildest current for internal use, or the strongest current required for body treatment.

It gives a current of exceedingly high oscillation. The coils are specially wound and impregnated in a special vacuum process which makes them practically indestructible. The electrode handle is insulated so there is no danger of receiving shocks through the cords or handles.

Put up in Keratol leather case,  $12 \times 9 \times 6\frac{1}{2}$  inches. Velvet lined. Furnished complete with connecting cords, one No. 1 surface electrode, No. 2 metal electrode and No. 1 comb electrode.

Trade No.	Description	Price Each
100473	Complete as described	\$40.00
	For 32 volts, add \$2.50.	

## No. 12

Special battery model for use where electricity is not available. Gives a current similar to Model 7. Built in a special re-enforced case, lined with velvet and covered with Keratol leather. Size  $18 \times 22\frac{1}{2} \times 9$  inches. This generator is operated on 12 dry cell batteries, which can be replaced by anyone in a few minutes, and gives excellent results. The batteries will last for several months and can be replaced at a small cost. Furnished complete with dry cells, connecting cords, and one No. 1 surface electrode.

Trade No.	Description	Price Each
100474	Complete as described	\$50.00
	For 32 volts or 220 volts, add \$2.50.	



# BRANSTON VIOLET RAY HIGH FREQUENCY GENERATORS

## No. 25



No. 25

The latest improved model, combining violet ray high frequency generator and special ozone transformer. The high frequency coils are wound to produce a current of exceedingly high oscillation. The ozone attachment is provided with a glass reservoir for the solution of ozone oil which filters the ozone, and at the same time eliminates the irritating gases manifest in the so-called ozone generators. The quantity of ozone can be regulated to suit the patient. An inhaler covering nose and mouth is provided with each instrument, with sufficient tubing for the patient to be seated comfortably while having treatment.

The generator is mounted in Keratol leather covered carrying case with nickel-plated trimmings. This generator has a very attractive appearance, as well as being a serviceable instrument.

Furnished complete with cords, ozone inhaler, bottle of ozone oil, one No. 1 surface electrode, one No. 2 metal electrode, one No. 4 comb electrode, one No. 15 rectal electrode, one No. 22 eye electrode, one No. 7 internal throat electrode.

Trade No.	Description	Price Each
086788	Complete as described	\$65.00
	For 32 or 220 volt, add \$3.50.	

## No. 27



No. 27

This outfit combines both high frequency and sinusoidal currents, the two making an ideal home treatment.

It is put up in a case covered with Keratol leather and velvet lined, size 14x10x7 inches. Included in this outfit are connecting cords, one No. 1 surface electrode, one No. 2 metal electrode, one No. 7 throat electrode, one No. 9 nasal and ear electrode, one No. 12 vaginal electrode, one No. 15 rectal electrode, one No. 18 urethral electrode, two sponge electrodes, sinusoidal cords, metal handles, massage roller, brush and sinusoidal chart.

Trade No.	Description	Price Each
086789	Complete as described	\$70.00

## No. 29



No. 29

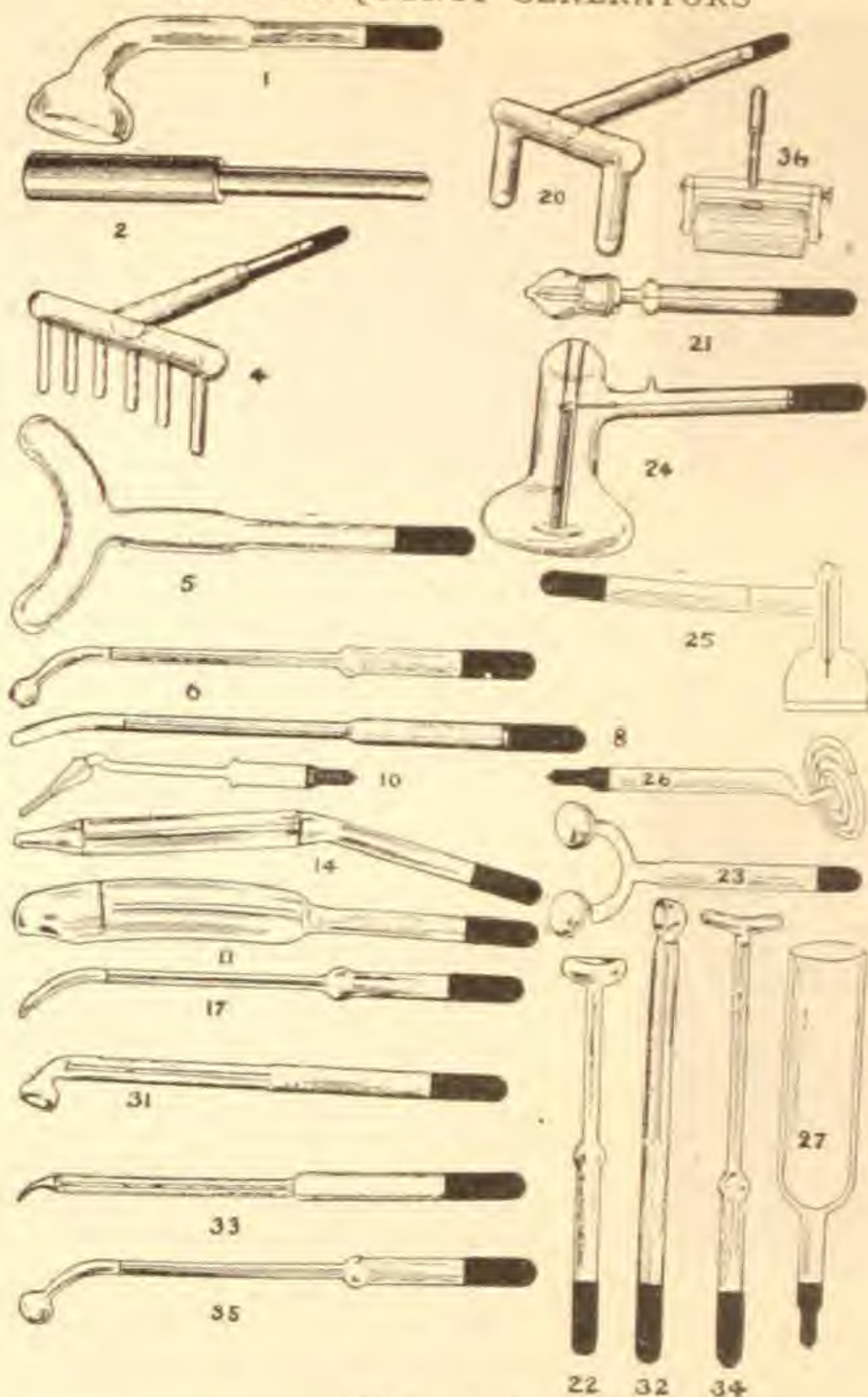
This outfit combines high frequency, ozone, and sinusoidal currents. Each instrument is the very best we manufacture and is an ideal outfit for the physician's office or for home use, by those who desire the very best.

Put up in a special Keratol leather covered case, lined with velvet. The case is protected with nickel-plated corners. The top of the machine is polished mahogany, which makes a very handsome appearance and is easily cleaned. The equipment consists of one No. 1 surface electrode, one No. 2 metal electrode, one No. 7 throat, one No. 9 nasal and ear, one No. 12 vaginal, one No. 15 rectal, one No. 18 urethral, one No. 21 fulguration, sponge electrodes, brush, metal handles and cords, massage roller, mask and tube for ozone treatment, bottle of ozone oil, and chart.

Trade No.	Description	Price Each
086790	Complete as described	\$100.00
	For 220-volt add \$3.50 to price of generator models Nos. 27 and 29.	



## ELECTRODES

SPECIALLY FOR USE WITH THE BRANSTON VIOLET RAY  
HIGH FREQUENCY GENERATORS

Trade No.	Mfrs. No.	Description	Price Each	Trade No.	Mfrs. No.	Description	Price Each
176206	1	Surface or general	\$1 25	176222	21	Fulguration	1 75
176207	2	Metal	1 00	176223	22	Single eye	\$1 50
176208	4	Rake comb	2 50	176224	23	Double eye	2 50
176209	5	External throat	1 75	176225	24	Condensor	4 00
176210	6	Internal throat (insulated)	2 50	176226	25	Cataphoric	4 50
176211	7	Internal throat (plain)	1 50	176227	26	Large spiral	4 00
176212	8	Nasal and ear (insulated)	2 50	176228	27	Penis (small)	5 00
176213	9	Nasal and ear (plain)	1 50	176229	28	Penis (medium)	6 00
176214	10	Special insulated ear	2 50	176230	29	Penis (large)	7 00
176215	11	Vaginal (insulated)	2 50	176231	30	Ozone generator	10 00
176216	12	Vaginal (plain)	1 50	176232	31	Dental (insulated)	2 50
176217	14	Rectal (insulated)	2 50	176233	32	Dental (insulated)	2 50
176218	15	Rectal (plain)	1 50	176234	33	Dental (insulated)	2 50
176219	17	Urethral (insulated)	2 50	176235	34	Dental (insulated)	2 50
176220	18	Urethral (plain)	1 50	176236	35	Pyorrhea (insulated)	2 50
176221	20	Spinal	2 00	176237	36	Roller vacuum (body)	4 00
				176238	37	Ground electrode	1 50

Electrodes which lose their vacuum after being used can be returned to the factory and have the vacuum restored. The electrode is then equal to new at half price. Minimum net charge, 50 cents.

Electrodes, not badly broken, can in most cases be restored equal to new at the factory at half price.

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Trade  
No.

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128194

128195

128196



## THERMOLITES

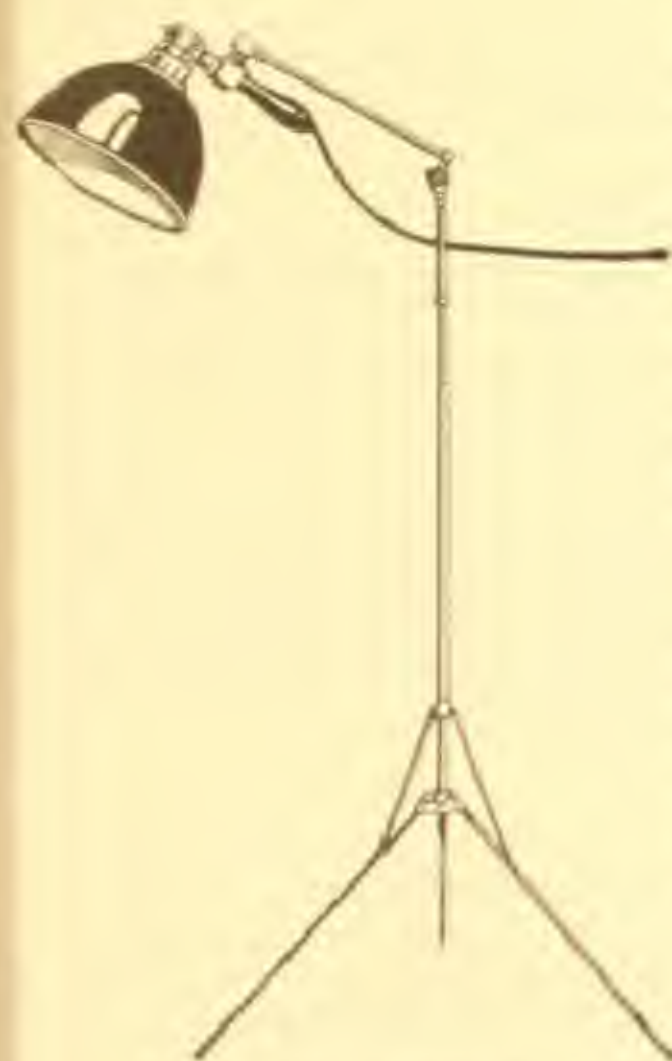
### HEAT AND LIGHT INFUSERS



Thermolite, Exterior



Thermolite, Interior



Floor Stand

The Thermolite is a simple and convenient electric device for duplicating the effect of the sun's rays on the body. Light and heat are generated in a special electric lamp contained in a reflector which so directs these soothing agents that when applied over the aching parts they not only affect the surface of the skin but penetrate deep into the tissues, relaxing the congestion and relieving the pain.

It may be applied with perfect safety for the relief of almost any pain and has been found very efficient in the treatment of sprains, bruises, muscular soreness, neuralgia, lumbago, rheumatism, neuritis, stiff neck, stomach and abdominal pains, backache, constipation, headache, head colds, pulmonary effects; also for use in massage and treatments by manipulation, drying hair and many other purposes that require a convenient application of heat.

Thermolites are used in all U. S. Army hospitals.

The Thermolite is far superior to hot water bags, poultices and other surface heating appliances on account of its penetrative power and because it is many times more convenient. There is no time wasted in preparation; simply attach to any electric light socket and you have efficient relief from almost any pain that flesh is heir to. The heat infusion is constant, penetrates deep into the tissues and is practically instantaneous in its operation.

Recent investigation has demonstrated that in order to produce the proper therapeutic effect it is absolutely essential that the heat be of proper intensity, that the source of light generate rays which have the power of penetration, and that these rays are so reflected that they retain this power. All of these points have been carefully worked out in the Thermolite.

The reflector so directs the heat rays of the special lamp that they produce the best results with minimum current consumption, and without the rapid deterioration of the filament, which is so annoying in other therapeutic lamps.

The heat rays are effective over an area of approximately 50 square inches and not focused in a small burning spot.

The outside shell and inside reflector are constructed of aluminium, making the Thermolite very light in weight (16 oz.) which permits prolonged treatment without fatigue.

The Thermolite is carefully and substantially made of best materials, has no complicated parts to get out of order, and with ordinary care will last a lifetime.

Beautifully finished in black and nickel.

Trade No.	Description	Price Each
128192	Complete with lamp to operate on any direct or alternating circuit not exceeding 125 volts, 8 feet cable and attachment plug	\$10.00
128193	Floor stand, nickel-plated, adjustable and folding, for use with Thermolite in prolonged treatments	6.00
128194	Extra Thermolite lamps, 120 volts, 200 watts	1.50
128195	Color screen, in red, blue or amber, complete with glass disc	3.50
128196	Extra glass discs	1.25



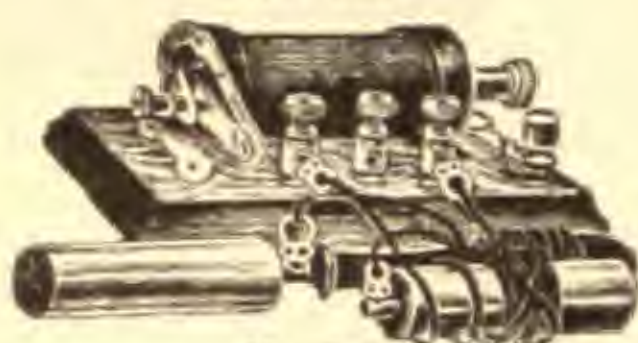
## MEDICAL BATTERIES



No. 2204



No. 2215



No. 2234



No. 2373



No. 2210



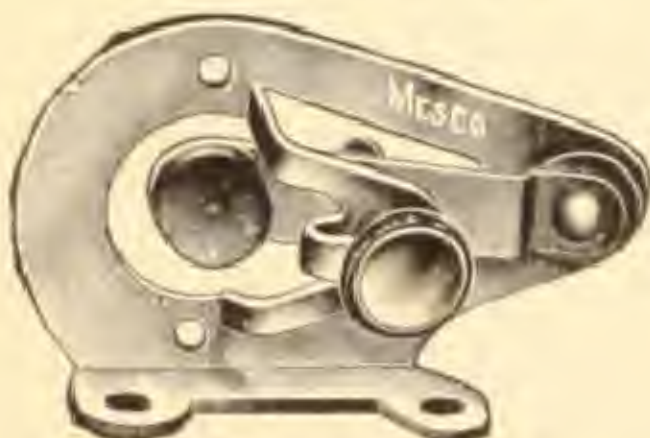
No. 2370



No. 2371



No. 2358



No. 2375



No. 2265

## HOUSEHOLD MEDICAL APPARATUS

Trade No.	Mfrs. No.	Description	Price Each
095649	2215	Complete, with battery and electrodes	\$6.50

## No. 4 HOME MEDICAL APPARATUS

095650	2204	Complete with battery and electrodes	8.50
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## MEDICAL INDUCTION COIL

095651	2234	Complete, with electrodes and cords only	4.50
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## ELECTRODES

095652	2373	Sponge electrode	.40
095653	2210	Massage roller electrode	.90
095654	2370	Hand electrode, N. P.	.65
095655	2371	Hand electrode, N. P.	.65
095656	2374	Foot plate electrode	.50

## CONDUCTING CORDS AND TIPS

095657	2358	Cords 3 feet long, per pair	1.00
095658	2362	Cords 4 feet long, per pair	1.10
095659	2359	Tips	.05

## CURRENT INTERRUPTER

095660	2375	Same as used on medical batteries	1.00
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## ELECTRODE HANDLE

095661	2365	Interchangeable	.25
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## NORTHERN ELECTRIC VACUUM CLEANERS



The Northern Electric Vacuum Cleaner combines a gently revolving brush with a strong suction. It is pleasing in appearance and most efficient in design. It will remove all dirt, usually three kinds, surface, adhering and imbedded, which accumulates in floor coverings.

It is made of solid cast aluminum, highly finished and, a most important feature in any labor saving appliance, it is one of the lightest vacuum cleaners on the market; weighs less than 12 pounds. Can be furnished with complete set of attachments for all kinds of cleaning.

### Principal Features

- Strong suction.
- Specially constructed and gentle acting spiral brush easily removed when necessary.
- Locking device.
- Special design of nozzle.
- Nozzle opening and fan case.
- Nozzle adjustment.
- Specially constructed double-ply bag, easy to remove and empty.
- Dust check.
- Automatic switch.
- Pistol grip handle.
- High speed motor.
- Handy oil can.

### Attachments

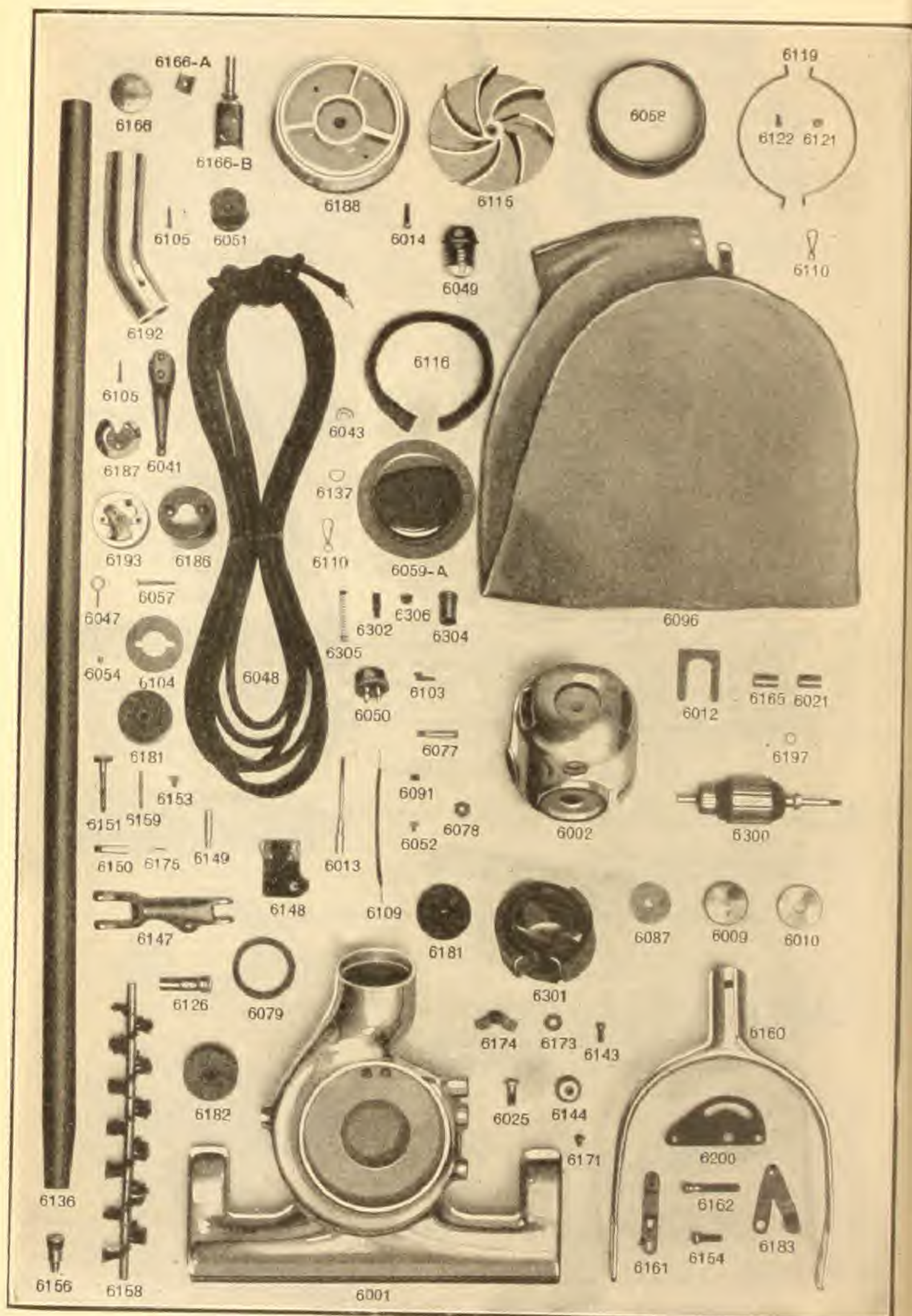
- 1.—Shoe attachment.
- 2.—Reinforced hose.
- 3.—Extension tube.
- 4.—Upholstery tool.
- 5.—Moulding, clothes and wall brush.
- 6.—Radiator and corner tool.
- 7.—Blower connector.

Tool No. 6 is for small crevices, as folds in upholstery and can be used with blower connector No. 7) for blowing out radiators, aerating pillows, blowing dust out of a piano or drying the hair after shampooing.

Prices Quoted upon Application



## NORTHERN ELECTRIC VACUUM CLEANER PARTS





# NORTHERN ELECTRIC VACUUM CLEANER PARTS

No.	Description	No.	Description
6001	Base casting only	6143	Handle lock screw
6002	Motor cap	6144	Handle lock thumb nut
6009	Top oil cup	6147	Castor horn
6010	Bottom Oil cup	6148	Castor bracket
6012	Plug retainer	6149	Castor stud
6013	Field stud	6150	Castor spring
6014	$\frac{5}{16} \times \frac{3}{4}$ R. H. screw for motor base	6151	Castor adjusting screw
6021	Top bearing	6153	$\frac{1}{8} \times \frac{3}{8}$ F. H. screw for castor bracket.
6025	Handle arm screw	6154	$\frac{1}{2} \times \frac{1}{2}$ handle lock plate screw
6041	Cord hook	6156	Q. D. bearing holder
6043	Cord cleat	6158	Bristle brush
6047	Screw eye for cord snap	6159	Castor horn pin
6048	Cord	6160	Handle arm
6049	Plug	6161	Switch operating arm
6050	Male plug	6162	Handle clamping bolt
6052	Shoe attachment screw	6164	Plug insulation (not illustrated)
6054	$\frac{5}{16} \times \frac{1}{8}$ switch cam screw	6165	Bottom Bearing
6057	$\frac{5}{16} \times 1\frac{1}{4}$ F. H. switch screw	6166	Oil can holder cap
6058	Bag collar	6166A	Oil can clip
6059-A	Dust check and trim	6166B	Oil can
6064	$\frac{5}{16} \times \frac{5}{8}$ R. H. brush holder screw (not illustrated)	6171	$\frac{1}{4} \times \frac{3}{8}$ R.H. screw for switch arm
6077	Wheel stud	6173	$\frac{1}{4}$ -inch washer
6078	$\frac{1}{4}$ -20 Hex. nut	6174	Wing nut $\frac{1}{4} \times 20$
6079	Belt	6175	$\frac{1}{16} \times \frac{3}{8}$ cotter pin
6087	Felt oiler	6181	Wheel, plain
6091	Motor base set screw	6182	Wheel, grooved
6096	Bag	6183	Handle stop spring
6103	Brush terminal	6186	Switch cover
6104	Switch insulation	6187	Switch cam
6105	Wood screw for handle grip	6188	Motor base
6109	Brush lead	6192	Cast handle grip
6110	Cord hanging snap	6193	Switch
6115	Fan	6197	Fiber armature washer
6116	Dust check felt	6200	Handle locking plate
6119	Bag clamping ring	6300	Armature
6121	$\frac{5}{16}$ square nut	6301	Field
6122	$\frac{5}{16} \times \frac{3}{8}$ -inch R. H. screw	6302	Carbon brush
6126	Q. D. brush bearing	6304	Carbon brush holder
6136	Handle	6305	Carbon brush spring
6137	Cord hanging ring	6306	Carbon brush cap screw



## KENT VACUUM CLEANERS

## PORTABLE TYPES



Vacuna Jumbo



Vacuna Standard



Vacuna Junior

The Vacuna vacuum cleaner has a minimum number of working parts. The entire mechanism has but one moving unit—a single motor shaft on which are mounted metal turbines. The ends of the shaft are housed in ball bearings contained in grease chambers. The only attention required is to lubricate these bearings once every six or eight months.

The Vacuna operates from the ordinary incandescent socket and works equally well with direct or alternating current. All that is necessary is to press a button and move the Vacuna tool over the surface to be cleaned.

There are three Vacuna Models: The Vacuna Jumbo type of vacuum cleaner is designed for factory use and is especially well adapted for the Textile Mill. It removes the fine particles of lint, dirt and dust from motors and from hidden delicate parts of machinery. It sucks it out, removes it absolutely and carries it out of the premises, rendering the air dust-free, pure and sanitary. It keeps the floors, wall and ceilings always clean and furniture, shelves, bins and stock free from dust and dirt.

The Vacuna Standard model is for the home, the hotel, the theater, the office building, the hospital. It cleans thoroughly without rubbing or wearing the carpets, furniture, tapestries, etc. No heavy pressure need be exerted on the nozzle. Not only does it gather every particle of fine dust, but also larger waste materials, such as matches, sewing clippings, threads, etc. It can be carried in either one or two parts, or it can be rolled across the floor without upsetting or marring the carpets. The large ball-bearing casters are rubber-tired and turn readily in any direction.



Set of Tools

The Vacuna Junior model is a two stage turbine fan machine and does all the cleaning needed in the average household. It is light and easy to carry about; for convenience it separates into two parts; the dust can detach from the base. It is mounted on rubber-tired wheels. Only one moving unit—nothing to get out of order and one lubrication is sufficient for months. Equipped with carpet nozzle, wall brush, hardwood floor pad, upholstery cleaner and blowing tool, hose, handle and electric cord.

Trade No.	Model	Height Inches	Wt., Lbs. Net	Lbs. Ship.	Price Each
69465	Jumbo	32	60	181	\$235 00
69466	Standard	30	48	155	145 00
69467	Junior	26	32	131	130 00

Price of Jumbo model includes cleaner complete with tools Nos. 4 (10-in), 4 (14-in), 7, 8, 9, 12, 15, 16, 16A, 17, 18, 19 and 20.

Price of Standard model includes tools Nos. 1, 7, 7 special, 8, 9, 10, 15, 16, 16A, 17 and 19.

Price of Junior model includes tools 1, 7, 7 special, 8, 9, 10, 15, 16, 16A and 19.



## KENT VACUUM CLEANERS

### STATIONARY TYPE



Kent Kleaner

An improved vacuum cleaning system for installation in any building, private or public. Kent Kleaners are in operation in all types of buildings, including residences, banks, schools, hospitals, theaters, factories, etc. They are simple in construction, sturdy and strong, and are giving complete satisfaction wherever installed.

The Kent Kleaner is a stationary cleaner — not to be confused with the smaller machines that must be taken from room to room. The machine is generally installed in the basement; piping  $2\frac{1}{2}$  inches in diameter is run to the upper floors; inlets are placed in the rooms wherever desired; a hose fits the inlet; a cleaning tool is attached to the hose; a button is pressed and the machine in the basement starts working.

All dust and dirt is sucked through the hose, down the pipes and into the dust chamber in the machine. This pan can be emptied out of doors as frequently as is necessary. The foul air sucked up with the dust and dirt is expelled out of doors through the chimney.

The Kent Kleaner is built contrary to some of the most widely exploited vacuum cleaning theories. For instance, the Kent Kleaner has no screen or cloth for sifting dirt as it enters the machine. A screen merely fills up and reduces the efficiency of the machine. The matter of proper size piping is but one of a number of important features of the Kent Kleaner. The piping is wide enough to carry a sufficient volume of air to move the dirt and not too narrow to allow passage of matches, hair pins and other matter which enter the cleaning tool at times.

Whether one is erecting a new building or contemplating the installation of a vacuum cleaning system in an old building makes no difference. Either way plans and estimates will be submitted for furnishing the necessary equipment and doing the work in the best manner possible at the lowest price that first-class material will allow.





## UTILITY FLOOR MACHINES



Utility Floor Machine in Operating Position, Showing  
Tampico and Wire Brushes Detached, with Palmetto  
Brush Attached to Machine

The Utility Floor Machine easily and thoroughly does all kinds of work on floors. It is used extensively by the United States Government, besides numerous state and city institutions, hospitals, hotels, office buildings, department stores, schools, libraries, factories, theaters and private residences.

The Utility Floor Machine will scrub or wax 2000 square feet of floor space per hour, where only 700 square feet can be done by hand.

It polishes linoleum and hardwood floors, giving them a brilliant, hard and lasting finish.

The Utility will refinish floors, making the employment of outside labor unnecessary. Paint, shellac, varnish and stains can be removed easily and quickly. It can also be used for surfacing off desks and tables.

It is self-propelling and mechanically perfect. It is operated with rapidity and ease by the average help. Economy in the use of cleaning and polishing materials and brushes is produced by the use of the Utility. It makes your cleaning force more efficient and is a guarantee that a specified amount of floor space may be covered in a given length of time.

Trade No.		Wt. Lbs.	Price Each
69164	Complete with direct current 110-volt or alternating current, 60-cycle 110-volt motor.	60	
69165	Equipped with 25, 40 or 50-cycle alternating current motor, 110 or 220-volt; or 220-volt direct current motor.		

Price includes 35 feet of cable and one palmetto scrubbing brush.

Other attachments: Tampico polishing brush, sand paper disk, 18 sheets sand paper, steel wire scrubbing brush, polishing pad, holder and pumice pad.

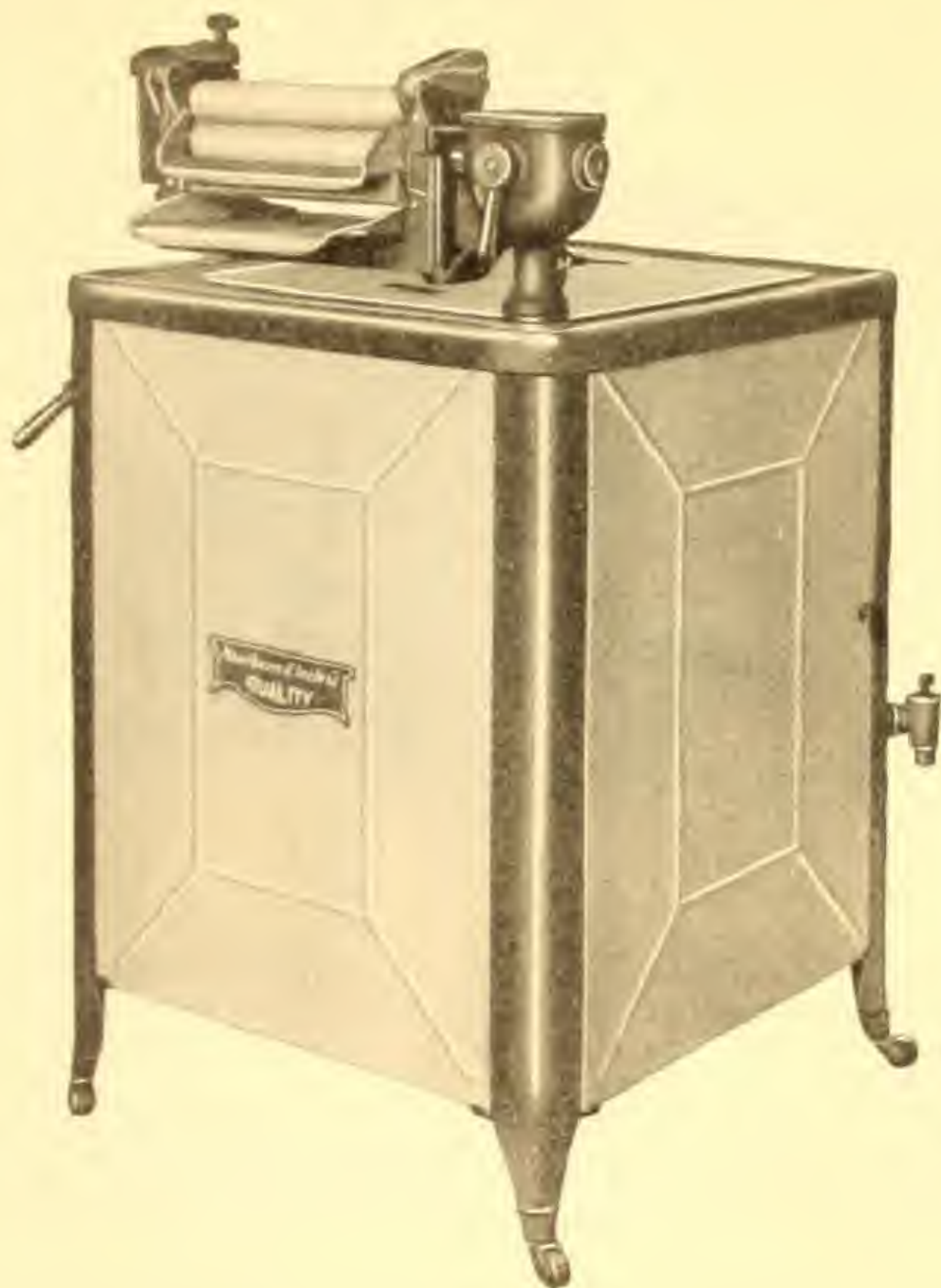
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## NORTHERN ELECTRIC WASHING MACHINES



The design and mechanical features of the Northern Electric Washing Machine represents new departure in washing machine construction. It is built throughout of the best materials obtainable under the most careful supervision.

A neat square model with rounded corners.

Although the floor space required is only 27 by 27 inches, the tub is of extra large capacity. Built on the oscillating principle there is no strain on the frame or the mechanism, as the tub remains stationary, the water being agitated by a specially designed paddle and special shaped b.

There is nothing to destroy the clothes. It will wash blankets as well as the finest of gerie.

Convenient height, 36 inches. Wringer, height 8 inches. Operated from lamp socket.

A few of the features:

WRINGER.—All metal swinging wringer with safety release.

CLUTCH.—Overload friction safety clutch.

MOTOR.—All enclosed special washing machine motor.

OILING.—Oiling necessary about once a year only. Oil cannot leak and get on clothes.

WORKING PARTS.—Few working parts; only one gear necessary to drive machine.

NOISELESS OPERATION.—This machine is practically noiseless when running.

Furnished complete with cord and plug.

Price Quoted on Application



# WASHING MACHINES AND DRAINERS MISS SIMPLICITY WASHERS



These washers are simple, durable and economical; very easy to operate. Wringer is reversible with extra long rollers of best quality rubber and double, positive, quick-acting, safety release. Self-adjusting hardwood dolly with patent protecting cap. Dolly shaft, post and cover are bronze and absolutely rust proof.

All studs and bolts in the tub are bronze, and all other metal parts aluminum painted, making them rust proof. The tub is made of Louisiana Red Cypress, and is large and substantial.

Faucet is valve-type with threaded outlet for attaching hose. Easy to fill or empty the tub.

Attachment plug fits any ordinary lighting socket. Uses very little current and will not blow a 10-ampere fuse.

Controls are handy and direct-acting; they are within instant arm's reach and away from moving parts. All gears are machine-cut or accurately moulded and die-cast. This insures long service and quiet running. Safety catch insures gears engaging accurately; allows free circulation of air in the tub when not in use.

All gears and other mechanical parts are safely guarded. No danger of getting clothes or fingers trapped.

Motor is oversize, one-quarter horse-power, waterproof and troubleproof. It is insulated and equipped with simple belt tightener and spring cushion.

## Prices Quoted on Application

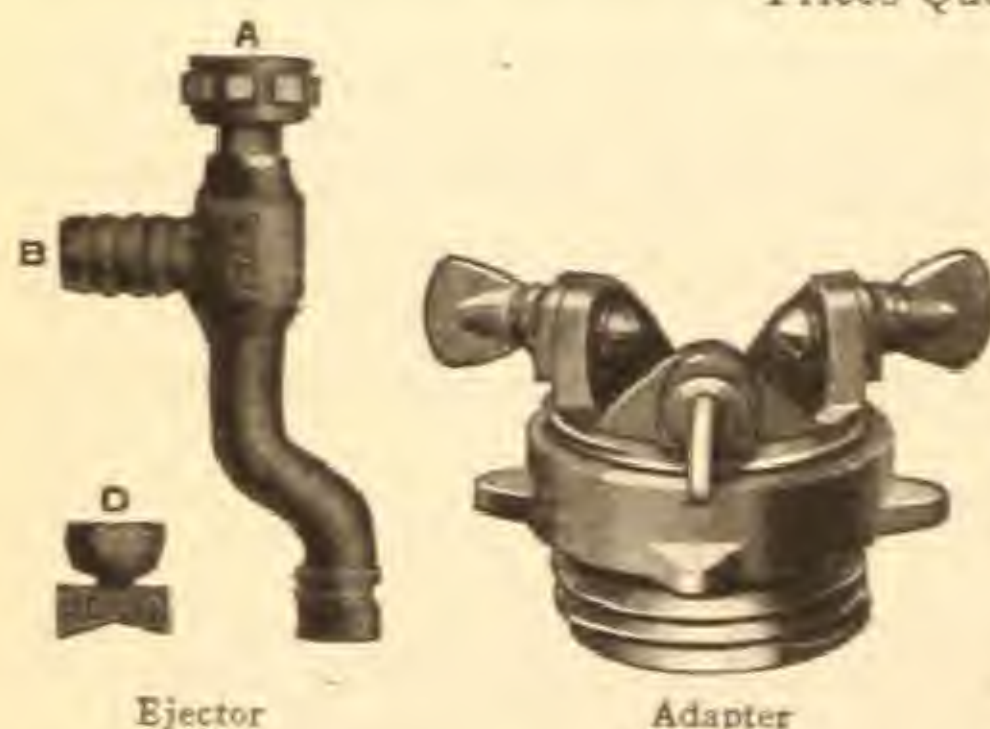
### PENBERTHY WASHING MACHINE DRAINER:

Designed to transfer water or other liquid from sumps, washing machines, wash tubs, collapits, or any place where there is an accumulation by means of ordinary water pressure. No electrical steam or other operative power required. It takes the maximum amount of water from the tub or sump with the minimum amount of water operating the ejector.

Trade No.	Description	Price Each
194401	Washing Machine Drainer . . . .	\$2.95

### PENBERTHY ADAPTERS

If faucet is smooth, it can be converted into a threaded faucet in a few seconds by using this adapter. Converts  $\frac{1}{2}$ ,  $\frac{3}{8}$  and  $\frac{3}{4}$ -inch faucets into standard threaded faucets.

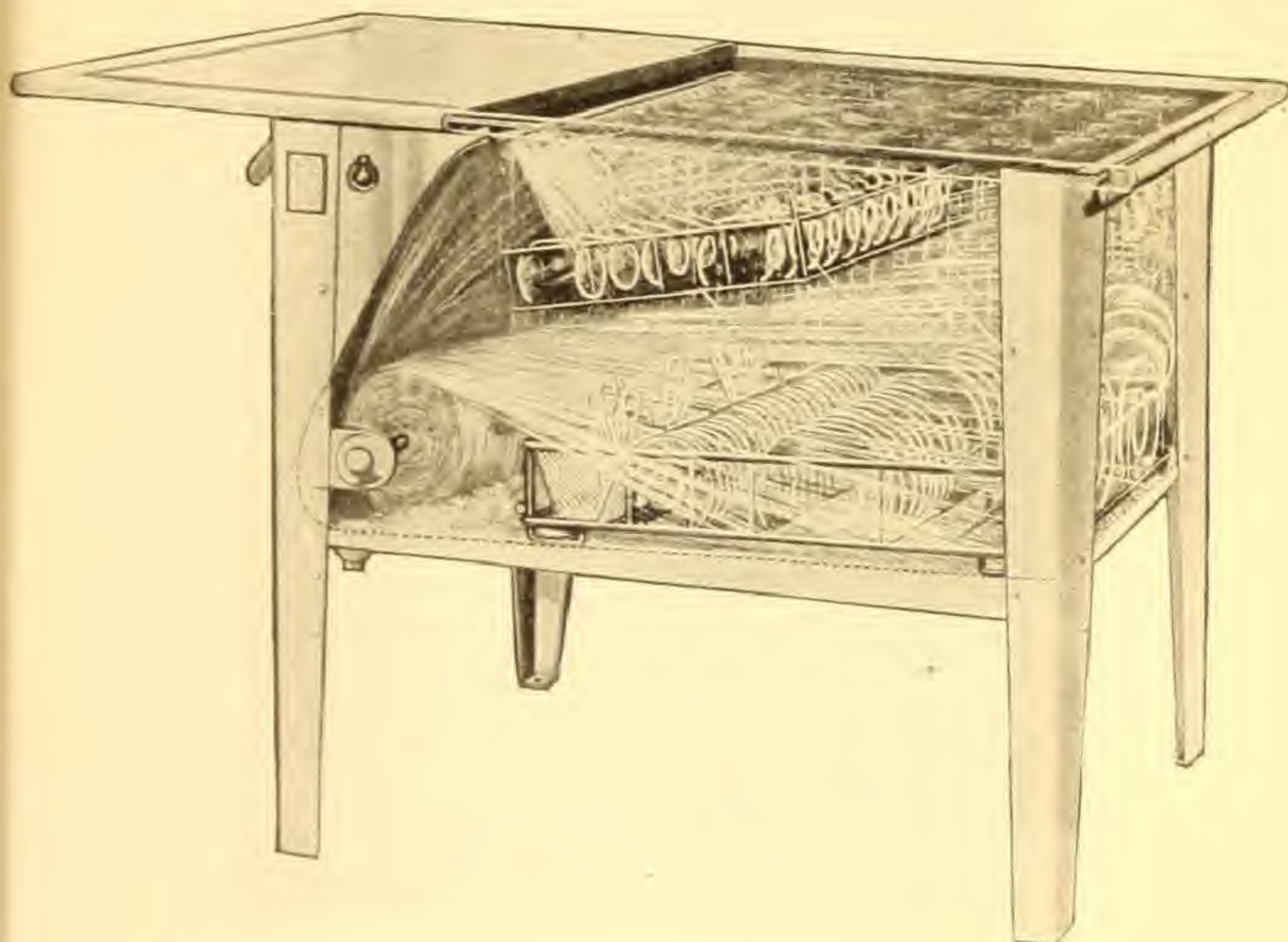


Trade No.	Description	Price Each
194402	Faucet adapter . . . . .	\$0.50



## DISHWASHING MACHINES

### COMBINATION DISHWASHER AND KITCHEN TABLE



This machine eliminates the drudgery of dishwashing. It is unnecessary to put the hands into hot, greasy water or stand over a sink. After the dishes are scraped, they are placed, each dish separately, in the two wire racks in the copper body of the dishwasher. As no two dishes touch, there is no possible danger of their being chipped or cracked. There are separate holders for the silverware.

A water line on the bottom of the tank shows just how much hot water to use. A convenient switch starts and stops the motor. The dishes are thoroughly washed by the continuous spray of hot water which is thrown over and around each dish by the motor-driven paddle wheel. Clean hot water rinses them in the same way. The hands do not touch the dishwater.

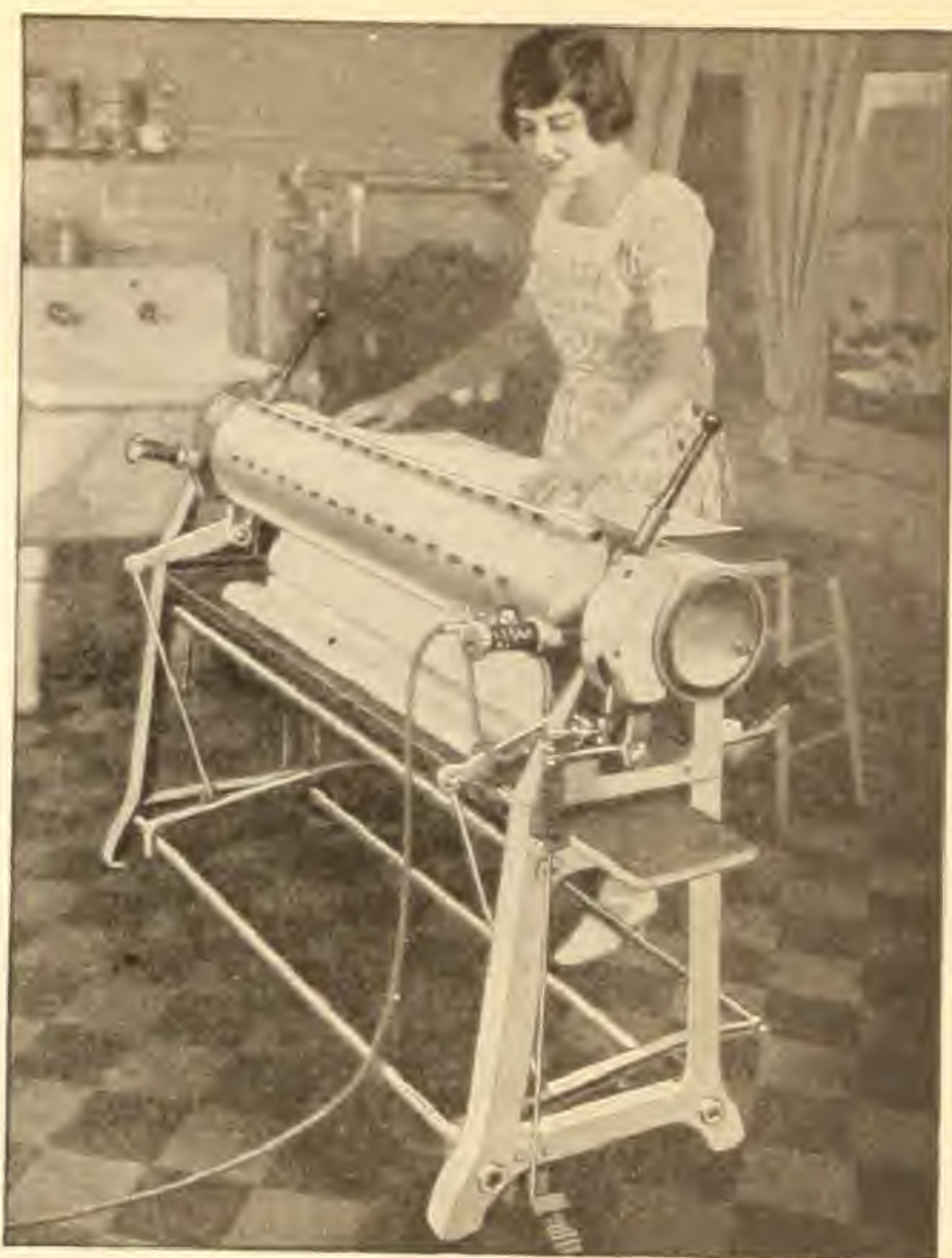
While the glasses and silverware are being polished, the rest of the dishes are drying by their own heat. A convenient drain in the bottom of the tank makes emptying the water a simple process; the water can either be run off into a pail or a permanent connection can be made with the drains. The entire operation takes just about fifteen minutes.

When not in use as a dishwasher, this machine makes a splendid kitchen table. Just the right size—47½ inches long, 27 inches wide, and 31 inches high—and with its white enamel finish, clean and sanitary.

Prices Quoted on Application



## IRONING MACHINES



These machines are especially designed for use in the home. They make it possible to do the ironing in a fifth of the time it would take to do it by hand, and with none of the old tiring work.

All that is necessary is to guide the clothes between a well-padded ironing roll, electrically driven, and an evenly heated ironing shoe, gas heated. Spring tensions automatically adjust the pressure of the roll to any thickness of goods. The goods drop in even folds from the roll to a smooth board. This board is tilted at an angle that prevents clothes from slipping to the floor.

The ironer has a double control. The hand control consists of two upright levers at each end of the main roll. They are easily reached from any position and require only a 12-pound pressure to move. The foot control of main iron is a round bar extending the full length of the machine and can be operated from either a standing or sitting position. The shoe can be thrown far enough back from the roll to make cleaning an easy matter. All moving parts are enclosed; this eliminates any danger to the operator.

An exclusive feature of this ironer is the ruffler. On the ruffler all sorts of things can be ironed, such as collar bands, soft collars and cuffs, and the ruffles on waists and dainty undergarments. Neckties can be pressed and a finish given to the belt bindings that are so hard to iron dry. The ruffler iron is separately heated and is operated by a separate foot-control.

This machine is made in one size only. The main roll is 46 inches in length and the ruffler is 3½ inches in length. This size satisfactorily handles all domestic work. When it is folded up, the machine occupies a floor space of 21 by 67 inches. The frame is finished in a dull gray enamel and the shelves are a natural wood color.

Prices Quoted on Application



30-gallon Boiler

Price  
\$4700  
\$4761  
\$4762

\$4763  
\$4764  
\$4765

Interesting



## THERMO-ELECTRIC WATER HEATING DEVICES



30-gallon Boiler

### FOR INDUSTRIAL AND DOMESTIC PURPOSES

The illustration shows a Standard Thirty-gallon Domestic Boiler. In front is a single unit installed in the 1-inch opening commonly used for connection to water back. At the right a similar unit is installed in ordinary pipe fittings as a circulation heater. These single unit low wattage heaters are designed to meet the severe requirements of continuous operation and their admitted efficiency, durability and economy of operation is readily supported by Central Stations who enjoy an attractive domestic load of this nature.

At the left is shown a Three-heat, Twin Element, Circulation Heater recommended for localities where a flat rate is not available and intermittent operation is best suited to the requirements of Central Station and customer. With these heaters the maximum amount of heat is generated and is rapidly absorbed by the water, insuring highest efficiency and temperature balance.

Correct design, excellent material, high grade workmanship.

All types adapted for conduit connection and remote control. Heaters of other capacities built to order. All three-heat heaters complete with three-heat switch. Standard types as follows:

#### Single-Heat Heaters

Trade No.	Mfrs. No.	Voltage	Watts	Description
194760	6110	110	660	Single unit immersion
194761	7110	110	750	Single unit immersion
194762	1110	110	1000	Single unit immersion

#### Three-Heat Heaters

194763	2110	110	2000	Three-heat circulation
194764	2220	220	2000	Three-heat circulation
194765	3220	220	3000	Three-heat circulation

Interesting descriptive literature forwarded on request.

Prices Quoted Upon Application



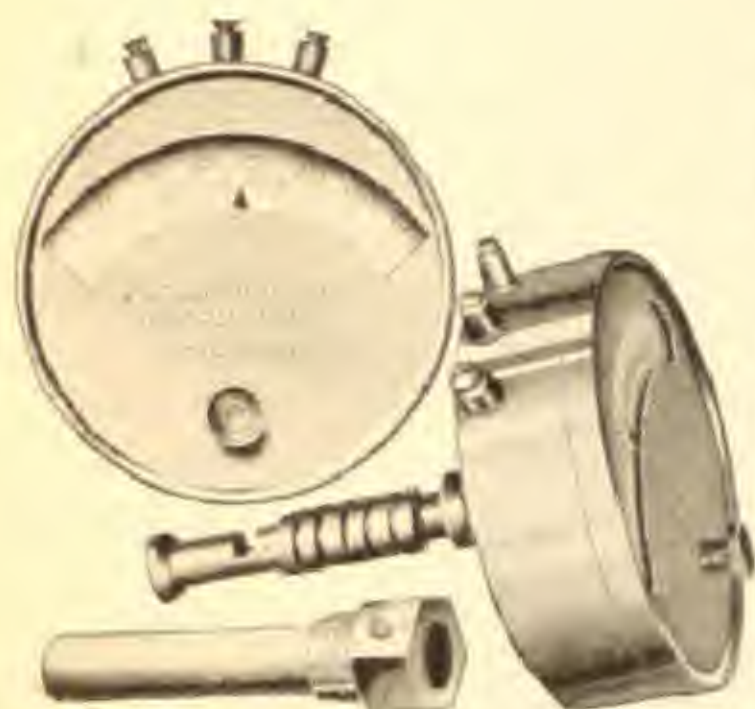
## MINNEAPOLIS HEAT REGULATORS



No. 47



No. 55



No. 65



No. 70



Gravity Motor

## REGULATOR

This regulator consists of a thermostat, a motor and fittings.

## THERMOSTAT

The thermostat controls the operation of the whole mechanism of the regulator. Made with and without a time attachment.

The thermostat is protected by an ornamental screen, having upon its face an accurate thermometer, and is finished in bronze. It should be located in the living room at an average temperature point. All other parts of the device are located in the basement.

## TIME ATTACHMENT FOR THERMOSTAT

This attachment consists of a clock mounted in connection with the thermostat and of similar finish.

This arrangement will change point of temperature control at any predetermined hour; for instance, it will hold the temperature at night at 60° and will automatically raise the temperature to 70° at the rising hour. It is not necessary to use the time attachment except when desired.

Model No. 47 with one-day clock. The clock is hinged in front and swings in a complete circle for winding. It is easily removed. All arbors wind with one key. The thermometer is small and inconspicuous. Operated with spring motor, direct current motor or alternating current motor.

Model No. 55 duplex eight-day thermostat. Will automatically lower the temperature at night to any desired point, and at any predetermined hour in the morning raise the temperature to any desired point. With this model the device is entirely automatic. The only thing necessary is to wind the clock once a week. Equipped with a handsome eight-day clock. Operated with spring A. C. or D. C. motor.

Model No. 65 is the same in electrical construction as the other models. Especially adapted for the control of valves, dampers, etc., for the regulation of hot water tanks, steam, bake ovens, etc. Operated with spring motor, direct current or alternating current motor. Temperature range, 0 to 500°.

## No. 70 PRESSURE REGULATOR

The Minneapolis Pressure Regulator gives the same accurate and positive control of pressure on vapor or steam heating systems that the Minneapolis Heat Regulator gives on temperature control. This simple accurate pressure regulator will maintain any pressure desired within a range closer than can be registered on the average gauge. It is easily and quickly attached exactly the same way that an ordinary pressure gauge is installed. It is an electrically operated device, no diaphragms to wear out or stick, causing trouble and expense.

## GRAVITY MOTOR

Designed to be fastened to the ceiling of the basement. Is enclosed in a pressed steel case, finished in black enamel, baked.

The power is furnished by an iron weight, which is of ample size to lift all dampers on the modern types of furnaces, and no special expensive dampers are necessary.

All motors, when run down, automatically leave the drafts closed.



Spring

Alternating  
M

Time  
Attachment  
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No. 65  
No. 70  
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## MINNEAPOLIS HEAT REGULATORS

### HEAT REGULATORS

#### Spring Motors

The motor is encased in a solid pressed steel cover, No. 22 gauge, finished in black enamel, baked.

There is an index finger with scale which travels as the motor is wound and unwound, a glance at the motor showing at all times the condition in reference to winding.

The cover is dustproof, cotton sleeving being used at the shaft.

The motor is also provided with basement switch by means of which the motor can be operated in the basement at will.

Easily wound by means of a crank key.

#### Batteries

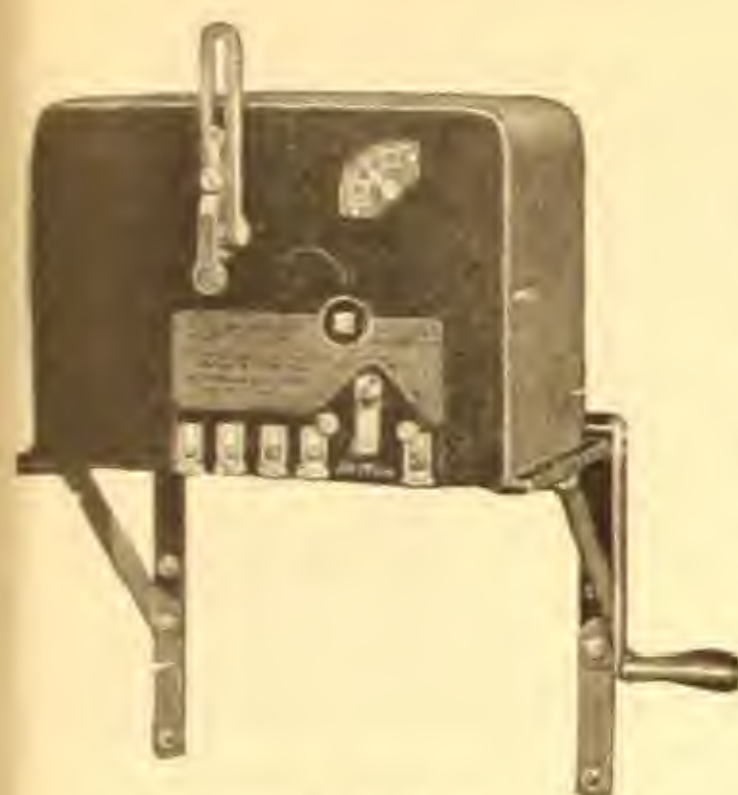
Two cells of open circuit battery are used, and as no work is required of the battery except releasing the motor, and it is in service only a second at a time, it will last a number of years.

#### Direct Current Motors

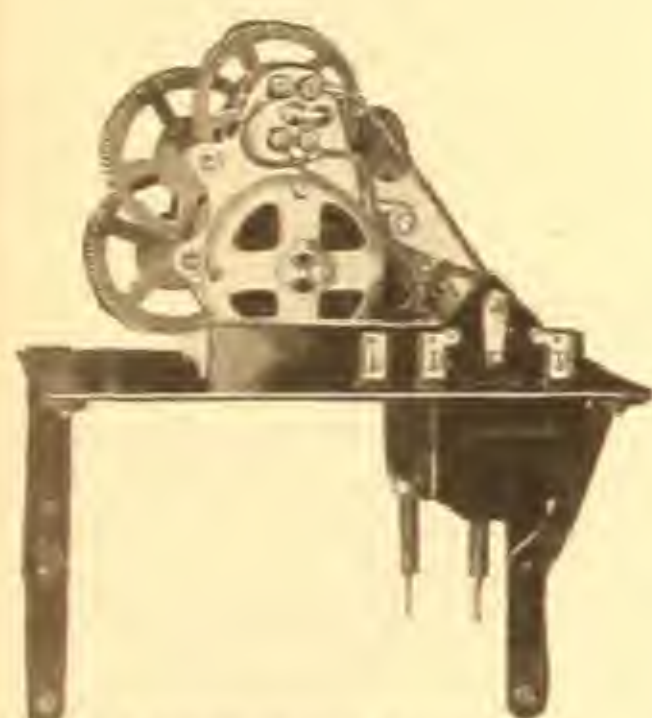
This motor has ample power and is capable of handling the heaviest work that a heat regulator can be put to. Power is furnished by four dry cells which have ample power to operate the device for a full heating season. A new set of dry cells should be installed each fall. Aside from replenishing the batteries and oiling once a year it requires no attention. All shafts run in finely adjusted brass bushings and motor is as finely adjusted as a high-priced clock. Motor is encased in a dustproof, 22-gauge steel cover, handsomely finished in black enamel. Furnished with basement switch by which it may be operated at will in the basement.

#### Alternating Current Motors

Designed to operate directly from the lighting circuit. Operates with 110-volt, 60-cycle, alternating current, but a small transformer is mounted on bottom of the case and this cuts down the voltage of the current which operates the thermostat and magnet coils. This makes the installation very simple, as the motor and transformer are complete in one unit.



Spring Motor



Alternating Current Motor

Model No.	Time Attachment	WITH GRAVITY MOTOR		WITH SPRING MOTOR		WITH A. C. MOTOR		WITH D. C. MOTOR		WITH 110 V. D. C. MOTOR	
		Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
40	Plain Thermostat No. Clock	122084	\$37.00	122089	\$45.00	122090	\$70.00	122091	\$60.00	122092	\$70.00
47	One-day Thermostat	122085	44.00	019433	52.00	122080	77.00	122076	67.00	122093	77.00
55	Eight-day Duplex	122086	56.00	122075	64.00	122081	89.00	122077	79.00	122094	89.00
65	Hot Water Tank Boiler	122088	61.00	019435	69.00	122083	94.00	122079	84.00	183742	94.00

### No. 70 PRESSURE REGULATORS

PRESSURE REGULATOR ONLY	Trade No.	Price Each	WITH GRAVITY MOTOR		WITH SPRING MOTOR		WITH 110 V. A. C. MOTOR		WITH 110 V. D. C. MOTOR		WITH 6 V. D. C. BATTERY TYPE MOTOR	
			Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
	183743	\$35.00	183744	\$51.00	183745	\$59.00	183746	\$84.00	183747	\$84.00	183748	\$74.00

Description of above regulators on preceding page.

Prices include wire, and all hardware, complete, ready to install.

Directions for installing with each regulator.

Shipping weight, approximately 30 pounds each.

NOTE.—Regulators can be readily applied to any style heater, the cost of application depending upon the size and style of heating apparatus. Special dampers will be furnished if desired.



## SEWING MACHINE MOTORS

### HAMILTON BEACH HOME MOTORS



H-B Home Motor

These little motors change any sewing machine, old or new, into an electric self-operated labor saver. Very easily adjusted. No tools or screws. Just place the motor on the machine next to the wheel. Attach the plug to any electric light socket. Then place the little self-starter on the floor. A slight pressure of the toe starts the wheel. Motor is wound for operation on 110 to 120 volts on either A. C. or D. C., 25 to 60 cycles. A slight additional charge for other currents is made.

Trade  
No.

90468

Complete, as described.

Price  
Each

\$18.50



Motor with Fan  
Attachment

### HOME MOTOR ATTACHMENTS

These consist of fan guard and blades, emery wheel and buffer. Simply remove the cork pulley from the motor and a twist of the wrist will attach the fan blade and guard, when the Home Motor will be instantly converted into an efficient fan motor.

A combination arbor is furnished, on which may be placed either the emery wheel or buffer. These are very effective for sharpening knives, scissors, etc., and for polishing silverware.

58619	Fan attachment	3.00
58620	Combination emery wheel and buffer	1.50
63103	Cream whipper attachment	5.00



Bracket Type

### BRACKET TYPE SEWING MOTORS

The principle of these motors is exactly the same as that of the Home Motor except that they are intended to attach permanently to the arm of the machine back of the head. They are so constructed that they may be turned in, when they will be readily dropped with the head when closing the machine.

There is a different style bracket to fit every type and model sewing machine. When ordering, be sure to specify type, model and manufacturer's name of machine.

58621	Any type, complete	19.25
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### TAILOR TYPE SEWING MOTORS

Tailor Type Motors are absolutely devoid of any complicated parts. They are light, portable, can be readily changed from one to another machine, and their current consumption and maintenance cost are negligible factors. They fit and operate perfectly practically all types and models of light tailor machines. They require neither bolts, clamps nor screws to fasten. They are simply placed on the machine with the little pulley next the hand wheel and the self-starter may be placed in any convenient position on the floor. All the operator has to do is to guide the sewing and regulate the speed by a slight pressure of the foot.

**SIZE OF MOTOR.**—Diameter,  $3\frac{1}{8}$  inches, length,  $5\frac{1}{2}$  inches, length of shaft  $7\frac{3}{4}$  inches, size of pulley  $1\frac{1}{2}$  inches, uprights 6 inches, lowest position top edge of pulley 3 inches, highest position top edge of pulley 6 inches. Weight,  $4\frac{3}{4}$  pounds.

Motor wound for 115 volts, A. C. or D. C., 25 to 60 cycles. Watts, 41 at lowest speed; 70 at highest.

Gives speed of 300 to 1800 stitches per minute. Motor is reversible by simply reversing position of pulley and bobbin winder.

Shaft extension outside of motor is equipped with friction attachment for winding bobbins, thus eliminating the necessity of using old-fashioned attachment. Motor liberally guaranteed forever against all defects in workmanship or material. Natural wear and tear not considered a defect.

58618	Complete, as described.	28.50
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Tailor Type



## DRINK MIXERS AND PORTABLE DRYERS



Drink Mixer



Model No. 1  
H. B. Hair Dryer



Model No. 2  
H. B. Hair Dryer



Shoe Dryer

### HAMILTON BEACH DRINK MIXERS

#### Improved No. 2

**MOTOR.**—13000 revolutions per minute. New-type commutator, tested to 1100 volts. One horsepower type, mica insulation, not fibre. Armature electrically and dynamically balanced. Wire double-silk covered and specially processed. Extra insulation throughout. Quick-detachable motor; only two screws to take out; no wires to disconnect; easy for repairs. Enclosed lower motor case; splash-proof. Lower bearing shield prevents syrup accumulations.

**BASE.**—Crystal white porcelain on fine metal body. Stainless, easily cleaned. Over-size rubber feet. Self-locking dowels hold column from turning or loosening.

**OPERATING MEANS.**—Push knob, triple lacquered close-grained maple, exactly in center of telescoping upright; insures least wear and easy movement. Lock hook is extra heavy gauge metal; with lock-washer screw. Full automatic switch. All telescoping parts have rubber shock absorbers. Spring metal glass holder; instantly adjusts itself to any size glass. Bell-mouth armor for cord.

**FINISH.**—Full triple nickel; double buffed and gloss polished. Extra heavy silver plate at slight additional cost.

Trade No.		Price Each
126301	Complete, as described	\$18.75

### HAMILTON BEACH HAIR DRYERS

#### Model No. 1

The H. B. Hair Dryer will quickly dry the heaviest head of hair. One turn of switch gives cold blast; two turns, hot blast.

The H. B. is perfectly balanced and light in weight, assuring ease of operation. There is nothing to get out of order.

Designed to operate from any electric light socket, on either alternating or direct currents at a voltage of from 105 to 120 volts. Where the voltage is less than 105 or more than 120 volts, or where the frequency of alternations is greater than 60 cycles, a small additional charge will be made for this special outfit.

Trade No.		Price Each
61222	Complete, as described	\$29.50

#### Model No. 2

Model 2 is similar to Model 1 in operation, but is somewhat different in design. The shape of the casing, however, is the same, being of a peculiar snail design which allows plenty of room for the fan and prevents the air from being choked.

Trade No.		Price Each
90469	Complete, as described	\$22.50
90470	Plush-lined carrying case, extra	1.50

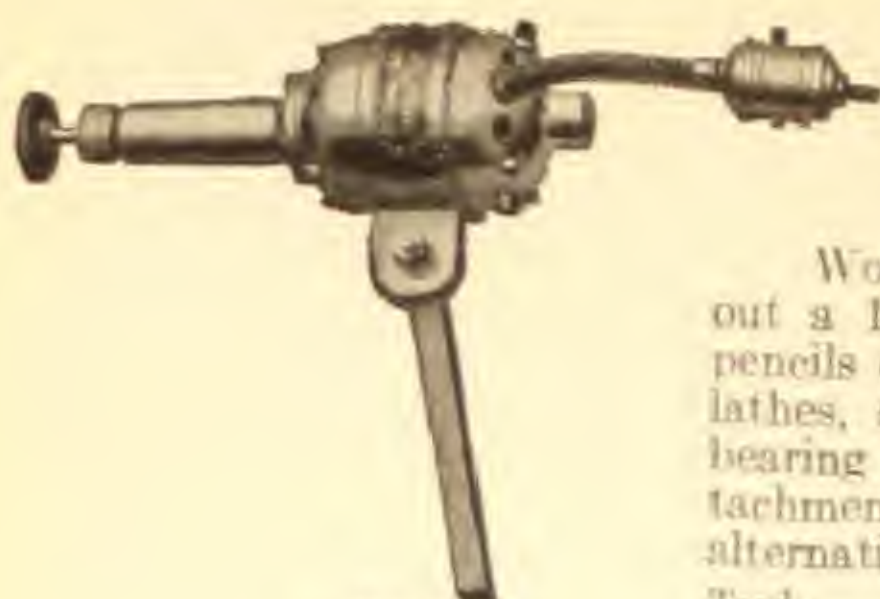
### HAMILTON BEACH SHOE DRYERS

The H. B. Shoe Dryer is portable, very light, efficient, durable, and fool-proof. Simple to operate. Has a hot and cold air blast and a universal support which fits any stand; has a highly polished aluminum casing.

Trade No.		Price Each
61223	Complete, as described	\$24.50



## HAMILTON-BEACH GRINDERS AND LATHE MOTORS



Grinder

## PORTABLE ELECTRIC GRINDERS

Works equally well on internal or external jobs. Will grind out a  $1\frac{1}{4}$ -inch hole 4 inches deep. Carborundum and emery pencils can also be used for grinding out small holes. Used on lathes, shapers, or millers. A special feature is the dustproof bearing caps. Furnished complete with portable cord and attachment plug. Motor is universal, operating on both direct and alternating current.

Trade No.	H. P.	R. P. M.	Wt. Lbs.	Price Each
12410	$\frac{1}{2}$	10000	$5\frac{1}{2}$	\$29.50



No. 1 Model Lathe Motor

## JEWELERS' LATHE MOTORS

These lathe motors are so constructed that the motor may be instantly reversed by simply turning the button in the switch, and the speed regulation is so arranged that when the motor is running at high speed in one direction, when reversed it will run at slow speed in the opposite direction, making it of especial advantage to the manufacturing jeweler for drilling and tapping purposes.

Large and powerful enough for the repair man, small enough to go on any bench and not be in the way.

## No. 1 Model

The No. 1 Model Motor is designed to attach to the lathe bench and connect by belt to the lathe. The speed regulation is controlled by the carbon brush switch. There are eight speeds. Raise or lower the carbon brushes until the desired speed is furnished. To reverse motor simply turn snap switch to the right.

Outfit consists of motor, reversing switch, and cord and plug. Motor dimensions: length  $5\frac{1}{2}$  inches, height  $5\frac{1}{2}$  inches, weight  $2\frac{1}{2}$  pounds.

Standard current 110 to 120 volts, 25 to 60 cycles alternating, 100 to 120 volts direct current. Current must be specified, otherwise alternating 60-cycle current motor will be furnished.



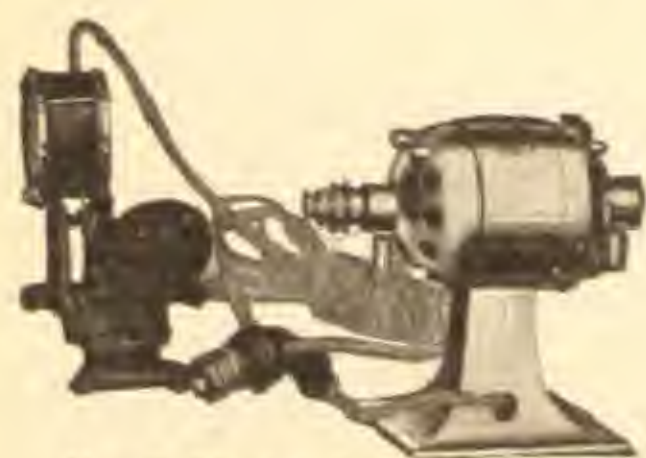
No. 2 Model Lathe Motor

Trade No.	H. P.	Description	Price Each
12411	$\frac{1}{2}$	Complete with 1-inch pulley	\$17.00

## No. 2 Model

The No. 2 Model differs from the No. 1 Model in that the motor is universal and the speed regulation is controlled by the small foot pedal self-starter. A light pressure starts the motor slowly, the harder you press the faster the motor runs. To reverse the direction of the motor, change the position of the carbon brushes; raise or lower to obtain the direction of running desired.

Trade No.	H. P.	Description	Price Each
12412	$\frac{1}{2}$	Complete with self starter speed regulator, 1-inch pulley, cord and plug.	\$20.00



No. 3 Model Lathe Motor

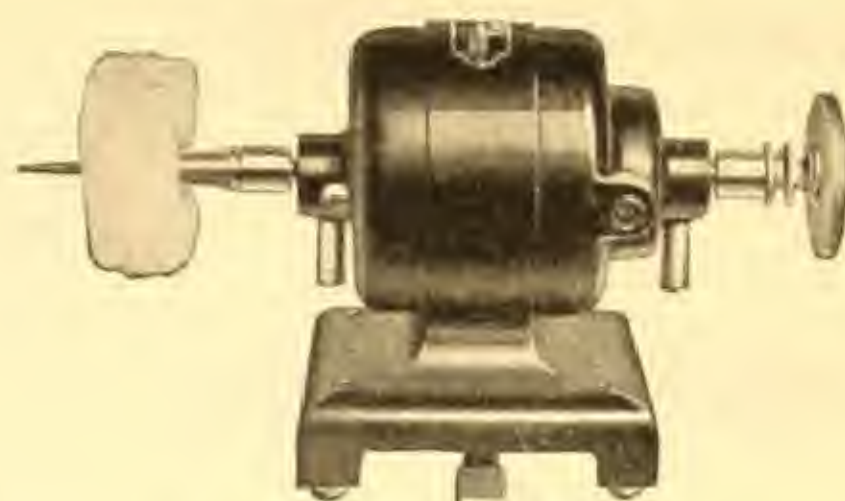
No. 3 Model			
Trade No.	H. P.	Description	Price Each
85863	$\frac{1}{2}$	Same as No. 2	\$27.50



# DUMORE FRACTIONAL HORSE POWER MOTORS



Type C



Type D

Dumore Motors are light, compact, yet powerful. Can be furnished in various sizes from 1-100 to  $\frac{1}{8}$  horse power. Designed for use in connection with high grade motor-driven appliances of different kinds. Jewelers and dentists find them especially serviceable for grinding, polishing and buffing.

## TYPE C

Light and powerful. Equipped regularly with a three-step pulley on one end of the motor shaft and a wheel arbor on the other, together with emery wheel. Just the motor for light polishing and buffing work. Furnished with 8-foot cord and attachment plug, Cutler-Hammer 3-speed rheostat.

Trade No.	H P	Speed R. M. P.	Volts	Slip. Wt., Lbs.	Price Each
146963	$\frac{1}{16}$	2000-8000	115	8	\$20.00

Type C can be equipped the same as Type D, if so ordered.

## TYPE D

This is one of the most popular of stock sizes. Especially adapted for jewelers' and dentists' work. Equipped with 8-foot cord and attachment plug, Cutler-Hammer 3-speed rheostat in the base. Shaft ends are tapered. Ritter chucks and wheel arbors can be used on this motor.

146964	$\frac{1}{8}$	2000-6000-8000	115	13	27.50
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## TYPE A

Built to meet the demand for a light, compact power unit. Finished in black enamel. Equipped with 3-foot cord and attachment plug, wheel arbor and emery wheel. Wheel arbor nickel-plated.

146965	$\frac{3}{16}$	2000-9000	115	6	13.50
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## TYPE B

The Type B motor is the same as the Type A, illustrated, excepting that it is finished in all nickel-plate. Equipped with 3-foot cord and attachment plug.

146966	$\frac{1}{2}$	2000-9000	115	6	14.50
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## TYPE FR

The Type FR outfit is a combination of a Type A motor and a 6-speed foot controlled rheostat. The Type FR motor is equipped with a three-step pulley, reversing switch, 11 feet of cord especially arranged so as to allow the rheostat to be set in position on the floor. This makes an ideal outfit for operating jewelers' lathes and also makes a highly efficient direct connected outfit for operating small winding machines for winding coil springs, etc. Six different speeds from a few hundred a minute to 8000 revolutions per minute.

146967	$\frac{1}{2}$		115	8	19.00
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## TYPE NFR

Same as Type FR, excepting a nickel finish instead of black enamel.

146968	$\frac{1}{2}$		115	8	20.00
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The above motors can be furnished in other voltages, at an additional price of \$1.00.



Types A and B



Type FR



Rheostat



## VULCAN ELECTRIC TOOLS

## SOLDERING TOOLS



No. 100

## No. 100

Equal to 1½-pound per pair soldering coppers. For telephone switchboards, electrical instruments, very light manufacturing, and fuses.

Trade No.	Mfrs. No.	Watts	Length Inches	Dist. Tip Inches	Wt. Oz.	Price Each
17023	100	70	13¾	½	12	\$8.00
17024	Extra tip					.50



No. 200

## No. 200

Equal to 3-pound per pair soldering coppers. For fast telephone work, light tinware, automobile repairs, general home use.

17025	200	150	14½	¾	18	10.50
17026	Extra tip					.80



No. 300

## No. 300

Equal to 4½-pound per pair soldering coppers. For medium tinware, general manufacturing, metal patterns and heavy automobile work.

17027	300	250	14¾	1½	29	13.00
17028	Extra tip					1.25



No. 400

## No. 400

Equal to 6-pound per pair soldering coppers. For heavy tinware, sheet steel work, metal boat making and refrigerator work.

17029	400	350	14¾	1¾	46	15.00
17030	Extra tip					1.70



No. 500

## No. 500

Equal to 2-pound per pair soldering coppers. About the same as No. 200, but recommended when shortness is important.

17031	500	120	11¾	¾	16	9.00
17032	Extra tip					.75



No. 600

## No. 600

Equal to 1-pound per pair soldering coppers. For extremely light soldering, light telephone multiple switchboard repairs, electrical instruments and smallest fuses.

17033	600	55	13¾	⅝	9	7.50
17034	Extra tip					.45



No. 700

## No. 602

Same as No. 600, except that it is elongated to 24 inches for convenience in reaching the full depth of very large multiple switchboards.

202864	602	55	24	⅝	12	9.50
202865	Extra tip					.45



No. 800

## No. 700

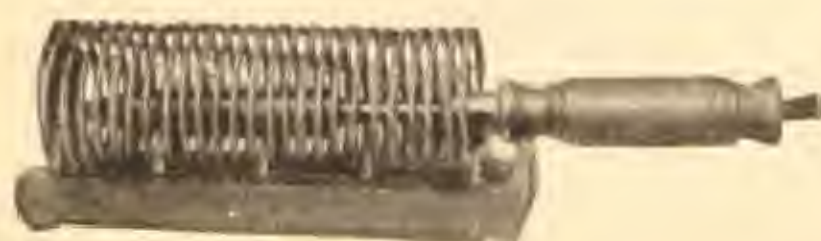
Equal to 1½-pound per pair soldering coppers. For bench and open work where light short tip is wanted. Specially adapted for telephone inspector's or lineman's tool kit.

17035	700	60	10	½	9	7.50
17036	Extra tip					.45

## No. 800

Equal to 10-pound per pair soldering coppers. For heavy sheet metal work, large patterns and all heavy soldering.

17037	800	500	15¾	1¾	65	19.50
17038	Extra tip					2.65



No. 2100

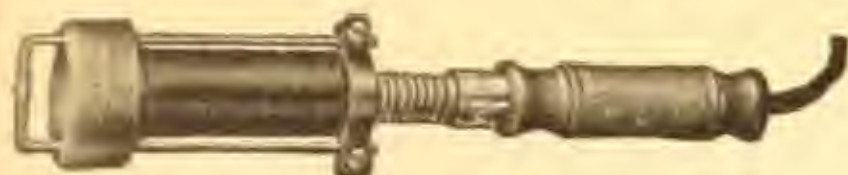
## SOLDERING TOOL HOLDERS

Holds soldering or branding tool when not in use. Rubber feet are provided so that it will not mar or scratch a highly polished surface.

Trade No.	Mfrs. No.	Description	Price Each
17042	2100	Soldering tool holder	\$4.00



## VULCAN ELECTRIC TOOLS



No. 402



No. 101



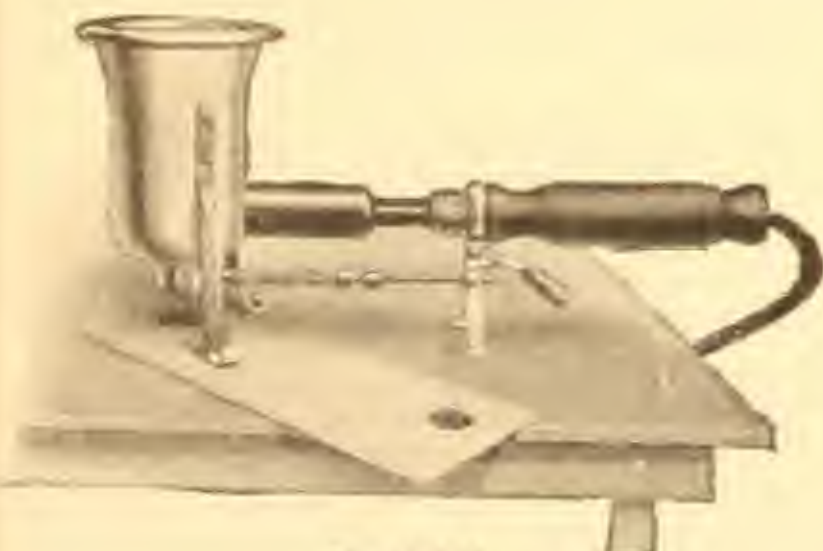
No. 702



No. 303



Rheostat



No. 8000



No. 5100

### CAN CAPPING TOOLS

Provided with a spring plunger to hold cap down while the solder sets. Send sample of can and cap, as tool must be made to order to fit them.

Trade No.	Mfrs. No.	Watts	Price Each
202357	402	350	\$20 00
202358	802	500	25 00

No. 300 soldering tool is recommended for tipping (closing vent holes) with the tip filed to a point.

### CORDLESS SOLDERING TOOLS

202359	101	70	8 00
202360	Extra tip		50

### CORDLESS TOOL STANDS

Wired through base to contact springs for two No. 101 cordless tools.

202361	2000		6 75
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### ELECTROTYPERS WAXING TOOLS

Used in building up the wax forms from which electrotypes are made.

Trade No.	Mfrs. No.	Watts	Length In.	Wt. Oz.	Price Each
202362	702	60	9 1/2	16	\$9 00
202363	Extra tip				1 95

### FELT BURNING TOOLS

This tool is used for shrinking down the ridges which form on the felt pads on the cylinders of large printing presses.

202364	303	250	13	25	13 00
202365	Extra tip				1 25

### RHEOSTATS

Provide for greater range in the use of these devices. Allow the use of extra hot tools (devices wound for voltage lower than that of the circuit) by protecting them when not actively delivering heat to the work. Save the expense of wasted current. Prolong the life of the winding. Preserve the tin from burning off the tip and maintain the exact degree of temperature required for any particular job. State tool No. and voltage when ordering.

Trade No.	For Tool No.	Price Each
202366	100, 600 and 700	\$8 50
202373	200 and 500	9 50
202374	300 and 400	10 50
202375	800	12 00

Each rheostat provided with 6-foot extension cord and plug and a connecting socket

### WAX MELTERS AND DROPPERS

For sealing packages and letters. Bulk wax may be used. One finger controls the dropper valve. When heated, the temperature may be regulated to prevent boiling or thickening of the wax.

Trade No.	Mfrs. No.	Watts	Description	Price Each
202376	8000	120	Complete with regulating socket rheostat	\$28 50

### CURLING IRONS

Has pointed rod and pointed removable clamp which slide easily into the hair. Constant supply of heat generated in the iron. Makes durable waves. Clean and light. Connector plug is detachable from handle.

Trade No.	Mfrs. No.	Watts	Price Each
202377	5100	27	\$5 50



## WESTINGHOUSE ELECTRIC FANS

Drawn metal frame and base with smooth surface that takes an attractive finish. They give maximum air delivery with a minimum current consumption. The blades are properly designed and the hum is thereby eliminated. Oiling is needed but once a season. A felt base insures against scratching polished surfaces. Can be used for either upright or bracket mounting.

Non-oscillating fans can be tilted forward 15 degrees, backward 90 degrees for bracket mounting, and 12 and 16-inch rotated 340 degrees. A wing nut clamps all adjustments.

The oscillating mechanism is geared through a ball clutch which permits the oscillation to stop when the fan strikes an obstruction. Cannot drop oil. Oscillates through either 45 or 90 degree arcs, as desired. Fan can be tilted 20 degrees forward or backward, when arranged for upright mounting. Oscillation can be stopped and started with fan running.

## DESK-AND-BRACKET TYPE FANS

60-CYCLE A. C. 100-120 VOLTS

## Non-oscillating

Trade No.	Mfrs. No.	Diam. In.	No. of Blades	Watts at High Speed	Average Speed H. P. M.	Approx. Wt. Lbs. Boxed	Price Each
125148	241842	10	4	32	1000, 1250, 1450	16	\$18.50
78369	315734	12	4	46	700, 800, 1025	28 1/2	23.50
36113	162628	12	4	47	1200, 1400, 1600	28	23.50
78370	321336	16	4	86	500, 800, 975	36 1/2	27.00
36115	162631	16	4	89	1000, 1270, 1540	37	27.00

10-inch Non-oscillating Fan  
In Desk Position

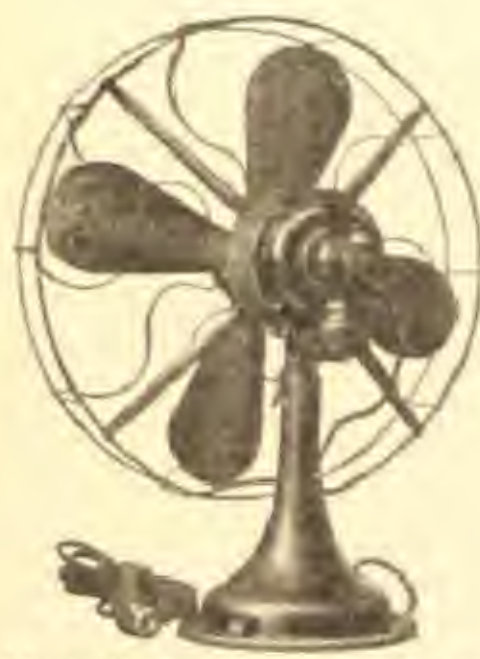
## Oscillating

125149	241853	10	4	34	1100, 1250, 1450	19 1/2	23.00
78371	315745	12	4	48	800, 900, 1025	31 1/4	30.00
36117	164848	12	4	47	1280, 1440, 1600	31	30.00
78372	321347	16	4	88	725, 850, 975	40 1/2	35.00
36119	164851	16	4	90	1050, 1330, 1540	43 1/2	35.00

25-30-CYCLE A. C. 100-125 VOLTS

## Non-oscillating

78367	272852	10	4	29	1125, 1275, 1425	15	18.50
78373	315728	12	4	36	1050, 800, 500	26 1/4	25.00
125140	162620	12	4	30	850, 1250, 1600	25	25.00
78374	321330	16	4	70	1050, 850, 650	32 1/2	28.50
125142	162622	16	4	70	950, 1250, 1600	34	28.50

16-inch Oscillating Fan In  
Desk Position

## Oscillating

78368	272854	10	4	30	1100, 1250, 1400	18 1/2	23.00
130572	315739	12	4	38	1050, 800, 500	28 3/4	31.50
125144	164860	12	4	32	850, 1250, 1600	27 1/2	31.50
130573	321341	16	4	72	1050, 850, 650	37 1/2	36.50
125146	164862	16	4	72	950, 1250, 1600	38	36.50

40 and 50-cycle fans can be supplied at approximately the same price as the 60-cycle fans; information upon request.

220-volt A. C. fans, supplied at \$1.50 additional to above prices.

Standard finish for fans is dull lacquered black body and steel guard. Fan blades are steel, except 16-inch fans which are equipped with micarta blades.

Number and price include fan complete with separable attachment plug and 8 feet of cord.

## WHIRLWIND 8-INCH FANS

Developed in response to demand for small single-speed fan at a popular price. Low price due to omission of refinements not essential to durability. Furnished complete with separable attachment plug and 6-foot cord.

Trade No.	Mfrs. No.	Volts	No. of Blades	Cycle	Weight Pounds	Price Each
78364	280598	100-120	4	60	11	\$10.50
130574	280729	100-120	4	50	11	10.50
*78366	280698	100-125	4	40	10	10.50
		100-125	4	25-30	10	
		100-125	4	D. C.	10	

\*These fans have series motors.

8-inch Fan In  
Bracket Position



# WESTINGHOUSE ELECTRIC FANS

## DESK AND BRACKET TYPE FANS

DIRECT CURRENT, 100-125 VOLTS

Description of fans given on the preceding page applies to direct current fans.

### Non-oscillating

Trade No.	Mfrs. No.	Diam. In.	No. of Blades	Watts at High Speed	Average Speed R. P. M.	Approx. Wt., Lbs. Boxed	Price Each
112342	272852	10	4	33	1250, 1450, 1650	15	\$18.50
170879	315726	12	4	31	680, 925, 1150	26 1/4	23.50
112333	162637	12	4	25	1000, 1300, 1600	25	23.50
112335	162639	16	4	63	1000, 1300, 1600	33	27.00
179880	321328	16	4	63	650, 850, 1050	32 1/2	27.00

### Oscillating

112343	272854	10	4	35	1225, 1525, 1625	18 1/2	23.00
112337	164854	12	4	27	1000, 1300, 1600	27 1/2	30.00
179881	315737	12	4	32	675, 925, 1150	28 3/4	30.00
112339	164856	16	4	65	1000, 1300, 1600	38	35.00
179882	321339	16	4	65	650, 850, 1050	37 1/2	35.00

220-volt D. C. fans, supplied at \$1.50 additional to prices shown above. 30-volt D. C. fans can be supplied at prices shown above.

Standard finish for fans is a dull black body smooth and lustrous, with steel guard finished in dull black. Fan blades are steel, except 16-inch fans which are equipped with micarta blades.

Number and price include fan with separable attachment plug and 8-feet of cord.

## EXHAUST FANS



Six-blade Exhaust Fan

Exhaust fans are designed for removing foul air, odors, etc., from kitchens, lavatories, theaters, restaurants, schoolrooms and such places. They are used for ventilators rather than for cooling. They should exhaust freely, not into pipes or flues.

The motor and frame are finished in black enamel. The blades are finished in dull black.

**SPEED REGULATORS.**—These motors are single-speed but a speed regulator can be supplied for the fans as listed below. The regulator is mounted separately from the fan at any convenient location. The regulator is operated by means of a lever.

Approximate net weight, 5 pounds; shipping, 8 pounds.

Speed regulators for 220-volt fans are same price as 110-volt speed regulators.



Speed Regulator

### 12-inch, Horizontal Delivery

6-BLADE EXHAUST FANS									SPEED REGULATOR FOR 110-V. FANS		
Trade No.	Mfrs. No.	Cycles.	Volts	Watts at High Speed	Speed *R. P. M.	Cu. Ft. Air per Minute	APPROX. Wt., Lbs. Net	Price Each	Mfrs. No.	Approx. Speeds with Reg.	Price Each
70851	251415	60	110-120	42	1050	860	18 35	\$30.00	251436	850-680	\$5.00
70852	251413	50	100-120	46	900	725	18 35	30.00	251434	800-700	5.00
70853	251411	40	110-125	43	1000	840	18 35	31.00	251432	850-700	5.00
70854	251409	25-30	105-115	36	1050	850	16 33	31.50	251430	800-500	5.00
70855	251407	D. C.	100-115	32	1150	935	16 33	30.00	251428	925-675	5.00
12-inch, Vertical Delivery											
70856	270796	60	100-120	40	1070	720	18 35	30.00	251436	850-680	5.00
70857	270795	D. C.	100-120	32	1090	735	16 33	30.00	251428	925-675	5.00
16-inch, Horizontal Delivery											
70858	251425	60	100-120	93	1000	1665	25 47	34.00	251446	850-650	5.00
70859	251423	50	100-120	86	900	1480	25 47	34.00	251444	750-600	5.00
70860	251421	40	110-125	90	1000	1670	25 47	35.00	251442	900-800	5.00
70861	251419	25-30	105-115	70	1050	1725	22 44	35.50	251440	850-650	5.00
70862	251417	D. C.	100-115	63	1050	1725	22 44	34.00	251438	850-650	5.00
16-inch, Vertical Delivery											
70863	270799	60	100-120	90	1040	1500	25 47	34.00	251446	850-650	5.00
70864	270798	D. C.	100-120	63	1070	1530	22 44	34.00	251436	850-650	5.00

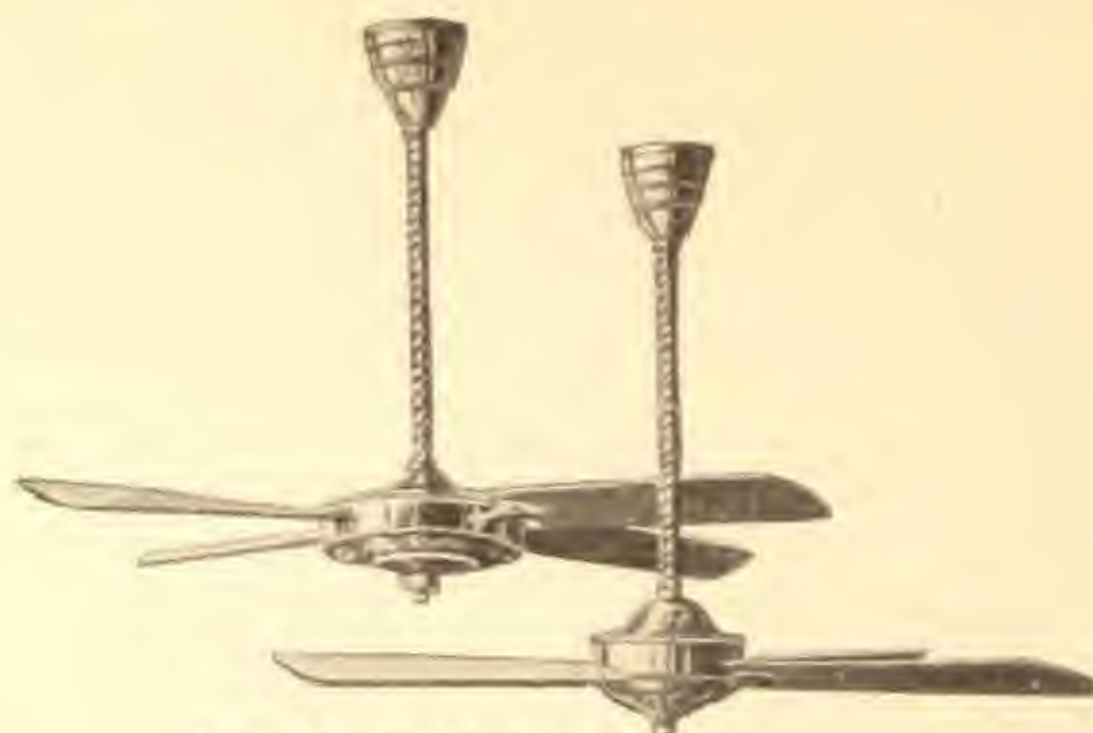
For 220-volt fans add \$1.50 to above prices.

\*Watts, speed and air delivery may vary 10 per cent from figures given.



## WESTINGHOUSE ELECTRIC FANS

## 32-INCH AND 56-INCH CEILING FANS



A. C. Fan at Left, D. C., Right—56 inch

**DISTINCTIVE FEATURES.**—Westinghouse ceiling fans move a large volume of air with very small current consumption. They operate quietly and require little attention. Their construction is simple and their appearance handsome.

**DIRECTION OF AIR FLOW.**—Standard fans throw the air downward, but if desired, the blades can be arranged to draw the air upward (reverse air flow), a desirable arrangement in places where the fan might disturb papers, as in offices and banks. Fans arranged for reverse air flow are not carried in stock, but are supplied on special order without extra charge.

**CONSTRUCTION.**—Alternating-current motors are of the induction type; direct-current motors are series-wound.

The lubricating system of the motors deserves special mention. Oil is poured in through an oil hole at the top of the motor and runs into a reservoir around the bearings. The bearings are, therefore, immersed in oil. When the motor is in operation the oil is pumped upward along the shaft and by means of a spiral groove on the shaft and flows back into the reservoir again. By this means a circulation of the lubricant is assured and one oiling suffices for the season.

**BLADES.**—Each fan has four blades. Two-bladed fans are not recommended by the Westinghouse Company because of their small output. The blades are of wood, with mahogany finish.

**FINISHES.**—The standard finish is black enamel. Special finishes can be supplied at an advance in price, and subject to approximately fifteen days additional time for delivery.

## 56-inch 4-blade Fans

Trade No.	Mfrs. No.	Cycles	Volts	Watts at High Speed*	Average R. P. M.	Cu. Ft. of Air per Minute	Approx. Wt., Lbs.		Price Each
							Net	Ship.	
125173	115725	60	100-115	150	225, 160	7500	52	100	\$55.00
125174	164300	50	100-115	160	225, 160	7500	52	100	55.00
125175	115729	40	100-115	170	195, 160	6500	52	100	58.00
125176	115727	25-30	100-115	155	225, 165	7500	52	100	58.00
125177	196122	D. C.	100-125	110	225, 160, 100	7500	52	100	52.00

## 32-inch 4-blade Fans

125178	164948	60	100-120	70	440	3350	22		45.00
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Mfrs. number and price include fan complete with suspension.

The 56-inch ceiling fans are for use in large rooms, such as theatres, restaurants, large offices and stores.

**220-VOLT FANS.**—For 220-volt fans add \$2.00 to the retail prices given below. 220-volt fans are not usually carried in stock.

\* Watts, speed, and air delivery may vary 10 per cent from figures given.



## WESTINGHOUSE ELECTRIC FANS

### GYRATING FANS—CEILING TYPE



Gyrating Fan

Westinghouse Gyrating Fans move all the air but without a strong draught. Each of the two fans produces a continuous flow of air outward, at any desired angle from the horizontal and the direction of the flow is continuously gyrating about the central axis.

The diverging current from the fans sweeps about so that at any point the air feels fresh and cool. The gyrating fans have a wind sweep of 20 to 25 feet and can be spaced that far apart with excellent results.

The fans used on the gyrators are Westinghouse 12-inch fans with drawn-steel frames. Special bearings are provided that absolutely prevent the escape of oil. No guards are necessary.

One of the fan motors is geared to a mechanical drive operating on a stationary central pulley. The drive is therefore positive and does not vary with the air reaction. The mechanism does not slow down and cannot revolve at excessive speed—an exclusive feature

of Westinghouse Gyrators. Current is conducted to the moving part by two carbon brushes in contact with slip rings. There is practically no friction in the revolving part, as it is carried on a ball-bearing.

Breeze at any angle desired, from horizontal to 35 degrees below horizontal, can be had, by a positive wing-nut adjustment at the side of the gyrating body. Turning this wing-nut raises or lowers the angle of both fans simultaneously. There is no possibility of tilting one fan more than the other and thus deranging the balance. The fans revolve about seven times a minute. Gyrating at higher speeds than this, the fans would tend to churn the air, restricting the distribution.

Ceiling type gyrating fans should be so mounted that, with the fans tilted to their limit, the lowest point of the blades is 7½ feet from the floor. Standard fans, including hanger rod, measure 55 inches from ceiling to lowest point of blades, suitable for 12-foot ceilings. Where ceilings are higher additional length of hanger rod should be ordered. The convenient pull switch on these fans can be operated from the floor.

Standard finish of all gyrating fans is dull black for all parts.

Grade No.	Mfrs. No.	Frequency	Volts	Watts	Average R. P. M.*	Approx. Ship. Wt., Lbs.	Net Price Each
9230	221499	60	100-120	88	1050	103½	\$65.00
9237	221497	50	100-120	74	925	103½	65.00
9238	221495	40	110-125	84	1075	103½	68.00
9233	221493	25-30	100-125	76	1050	103½	68.00
9234	221491	D. C.	100-125	64	1050	101	65.00

\* Watts, speed and air delivery, may vary 10 per cent from figures given.

220-volt fans both D.C. and A.C. supplied at \$3.00 additional to above prices. 220-volt fans not usually carried in stock.



## WESTINGHOUSE-VENTURA ELECTRIC FANS



A.C. Fan

Westinghouse-Ventura Fans are designed for ventilating, cooling and exhaust service and are especially suitable for use where the air passages to and from the fan are open and unobstructed. These fans are quiet running, very efficient in operation, simple to install and can be operated from the lighting circuit.

Odors and fumes originating from kitchen range can be directed into hoods and exhausted quietly and without creating drafts.

The fan consists of four main parts; the fan wheel, ring, arms and motor. The wheel is mounted on the motor shaft; the motor is supported by three arms which are attached to the ring.

The fan wheel is made up of ten steel blades securely riveted to a large central disc. It is light in weight and perfectly balanced so that operation without vibration is assured. The blades are unusually broad and are abruptly turned out at the ends. This shape gives the fan particularly high efficiency because

it causes the air to be drawn almost directly ahead, making the fan very effective when discharging through a brick wall. The central disc effectually prevents back flow of the air. The speed of the air thrown from the ends of the blades of any fan is high and the propulsive force is great but these factors decrease rapidly toward the center. As a result, on the old types of disc fan, a back flow is established in the outlet and any additional speed simply brings more air back through the center of the fan.

The ring is a substantial iron casting. Holes are provided for mounting bolts. The arms are bolted to the ring and to the motor and form a rigid support for the motor. Single-phase or polyphase motors are furnished for alternating current circuits. Series-wound motors are furnished for direct current circuits. These motors are especially designed for this service and are totally enclosed so as to be protected from dust, dirt and moisture. A thrust bearing takes up the backward thrust caused by the fan wheel.

The direction of rotation should be such that the air passes over the motor before entering the fan. Otherwise the thrust of the fan is away from the thrust bearing which will cause rapid wear of the sleeve bearing.

These fans are suitable for use in service where the air is drawn directly from the room to be ventilated and is exhausted into the open or where the inlet and exhaust pipes are so large in diameter and short in length that there is very little resistance to the passage of the air. This type of fan is not suitable for use where there is considerable resistance to the passage of air, as in the case where the air is led through long pipes or pipes of small diameter.

The main flue should not be less in diameter than the frame ring and should be as short and with as few bends as possible. Elevator shafts are often used as main flues, especially in buildings having low ceilings.

A snap or knife switch is the only starting device required. For direct-current fans, a small speed-regulating rheostat can be furnished which permits of six speeds from full speed to 50 per cent of full speed.

## Alternating Current

No. of Fan	Diam. Wheel In.	H.P.	Approx. R.P.M.	Capacity Cu. Ft. per Min.	SINGLE-PHASE		TWO-PHASE		THREE-PHASE		Approx. Ship. Wt., lbs.
					110 V. Mfrs. No.	220 V. Mfrs. No.	110 V. Mfrs. No.	220 V. Mfrs. No.	110 V. Mfrs. No.	220 V. Mfrs. No.	
3½	18¾	.085	870	1860	187345	187346	224904	224905	224906	224907	130
4	21¼	.11	880	2770	187347	187348	224908	224909	224910	224911	160
5	26¾	.17	700	4420	187349	187350	224912	224913	224914	224915	215
6	32	.26	575	6530	187351	187352	224916	224917	224918	224919	285
7	37¼	.42	565	9830	246318	246319	246320	246321	246322	246324	365

## Direct Current, Series Wound

No. of Fan	Diam. Wheel In.	H.P.	Approx. R.P.M.	Capacity Cu. Ft. per Min.	MFRS. NO. OUTPUT WITHOUT RHEOSTAT		MFRS. NO. RHEOSTAT		Approx. Ship. Wt., lbs.
					115-volt	230-volt	115-volt	230-volt	
3½	18¾	.085	870	1860	187353	187354	188588	188589	130
4	21¼	.11	880	2770	187355	187356	188588	188589	160
5	26¾	.17	700	4420	187357	187358	188590	188591	215
6	32	.26	575	6530	187359	187360	188590	188591	325
7	37¼	.42	565	9830	246327	244328	252512	252513	365

In ordering, always give Mfrs. No.

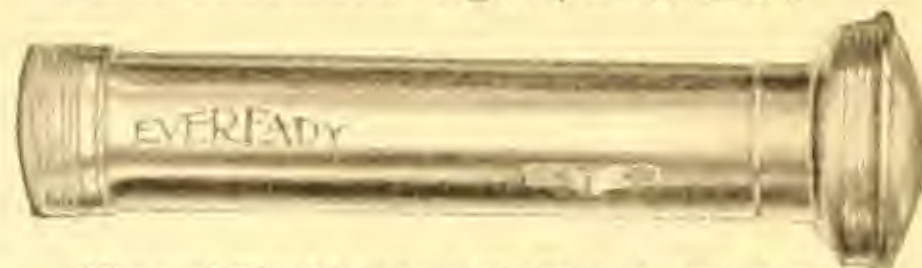
Prices Quoted Upon Application



## EVEREADY FLASHLIGHTS

The Light that Says, "There It Is!"  
TUBULAR TYPES

The nickel-plated cases are not injured by oil or moisture.  
All flashlights have slide switches, giving either flash or continuous lights, as desired.



Flashlight with Nickel-plated Case

Miners' Flashlight, with Nickel-plated Case

### FLASHLIGHTS WITH NICKEL-PLATED CASE

Trade No.	Mfrs. No.	Size Inches	Price, Each Complete	No. of Battery	Price, Each Extra Battery	No. of Bulb	Price, Each Extra Bulb
101132	2630	1 1/4 x 5 1/2	\$1.95	791	\$0.40	1197	\$0.30
101133	2631	1 1/2 x 6 1/2	2.25	790	.40	1198	.30
101134	2632	1 1/2 x 8 1/2	2.75	705	.40	1193	.30

### MINERS' FLASHLIGHTS WITH NICKEL-PLATED CASE

101144	2661	1 1/2 x 5 5/8	2.15	791	.40	1197	.30
101136	2634	1 1/2 x 6 1/2	2.85	790	.40	1198	.30
101135	2633	1 1/2 x 8 1/2	3.45	705	.60	1193	.30

### PORTABLE SEARCHLIGHTS WITH NICKEL-PLATED CASE

097798	2638	1 1/2 x 6 1/2	4.05	790	.40	1198	.30
097797	2637	1 1/2 x 8 1/2	4.55	705	.60	1193	.30

Same pattern as searchlight with fiber case, illustrated below.



Flashlight with Vulcanized Fiber Case

Miners' Flashlight, with Vulcanized Fiber Case

### FLASHLIGHTS WITH VULCANIZED FIBER CASE

Trade No.	Mfrs. No.	Size Inches	Price, Each Complete	No. of Battery	Price, Each Extra Battery	No. of Bulb	Price, Each Extra Bulb
054421	2602	1 1/4 x 5 1/2	\$1.70	791	\$0.40	1197	\$0.30
054422	2604	1 1/2 x 6 1/2	2.05	790	.40	1198	.30
054410	2612	1 1/2 x 8 1/2	2.45	705	.60	1193	.30

### MINERS' FLASHLIGHTS WITH VULCANIZED FIBER CASE

101145	2660	1 1/2 x 5 5/8	1.95	791	.40	1197	.30
054417	2616	1 1/2 x 6 1/2	2.40	790	.40	1198	.30
054418	2619	1 1/2 x 8 1/2	2.75	705	.60	1193	.30

### PORTABLE SEARCHLIGHTS WITH CORRUGATED FIBER CASE



Equipped octagonal lens and parabolic reflector. Throws a powerful beam for a great distance.

Trade No.	Mfrs. No.	Size Inches	Price, Each Complete	No. of Battery	Price, Each Extra Battery	No. of Bulb	Price, Each Extra Bulb
183731	2658	1 1/2 x 6 1/2	\$4.00	790	\$0.40	1198	\$0.30
16746	2659	1 1/2 x 8 1/2	4.30	705	.60	1193	.30

### TUBULAR SPOTLIGHTS



No. 2672

No. 2674

A new type of tubular flashlights with a 300-foot range

#### Vulcanized Fibre Case

Trade No.	Mfrs. No.	Price, Each Complete	No. of Battery	Price, Each Extra Battery	No. of Bulb	Price, Each Extra Bulb
101029	2672	\$1.50	705	\$0.60	1162	\$0.45
101030	2674	4.75	705	.60	1162	.45

#### Nickel-plated Case



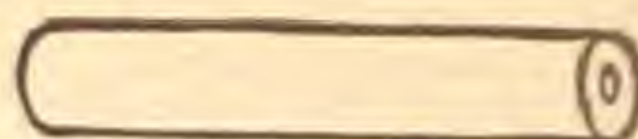
## EVEREADY FLASHLIGHT BATTERIES



No. 935



No. 950



Nos. 705, 790, 791 and 706



Nos. 700, 703, 750 and 751



No. 734



No. 719

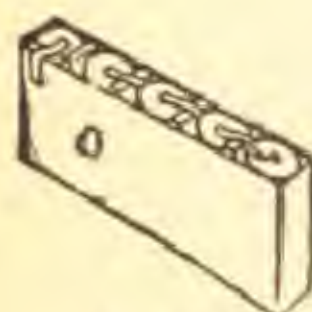


No. 710

## EVEREADY UNIT CELLS

Trade No.	Mfrs. No.	No. of Cells	Size Inches	Unit Pkg.	Std. Pkg.	Price Each
203141	935	1	1 7/8 x 1	25	250	\$0.20
203142	950	1	2 3/8 x 1 1/4	50	500	.20

NOTE.—Two unit cells No. 950, equivalent of one No. 790 Battery.  
Three unit cells No. 950, equivalent of one No. 705 Battery.  
Two unit cells No. 935, equivalent of one No. 791 Battery.



No. 731

## EVEREADY TUNGSTEN BATTERIES



No. 752



No. 775

Trade No.	Mfrs. No.	No. of Cells	SIZE OVER ALL, IN.			Eveready Bulb No.	New Mazda No.	Net Wt. Oz.	Price Each
			Height	Width	Depth				
054438	705	3	7	1 1/4	...	1193	17	10	\$0.60
054441	790	2	4 3/4	1 1/4	...	1198	16	7	.40
054442	791	2	3 3/4	1	...	{ 1197 } { 1192 }	{ 11 } { 20 }	2 1/2	.40
107066	706	2	3 7/8	5/8	...	1180	1	1	.35
203143	700	2	1 7/8	1 1/8	1/2	1180	21	21	.40
054451	703	3	2 5/8	2 1/2	3/4	1190	12	4 1/2	.45
054452	750	2	2 1/4	1 1/4	5/8	1180	1	2	.40
054453	751	3	2 1/4	1 7/8	5/8	1181	2	2 3/4	.45
054457	734	3	3	3 7/8	1 3/8	{ 1199 } { 1113 }	18	14 1/4	.65
203144	719	5	3	3 7/8	2 5/8	1195	31	20	1.25
054435	710	5	3	3 5/8	...	1195	31	22	1.25
203145	731	5	3	6 1/2	1 3/8	1195	31	21	2.25
203146	752	3	3 1/4	4	1 3/8	1199	18	13	.75
107077	775	3	3 1/8	2 5/8	2 1/2	1199	18	13	.65

EVERE

Nos.  
and

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taken that  
are to be use

Trade No. Mfrs. No.

00133 11

00134 11

00143 11

00138 11

00140 11

00137 11

00139 11

00152 11

†All pri

Illustrat



# EVEREADY MINIATURE MAZDA FLASHLIGHT LAMPS

## FLASHLIGHT BULBS



Nos. 1180  
and 1181



Nos. 1193, 1198  
and 1199



No. 1195

The lamps illustrated on this page have been specially constructed for use with the Eveready Tungsten Battery. They can, of course, be used for other purposes, but care should be taken that the correct voltage is ordered according to the strength of the battery on which they are to be used.

Trade No.	Mfrs. No.	Mazda No.	Article with which Bulb is Used	Battery with which Bulb is Used	No. Cells of Battery	Style Bulb	Volts	Amps.	Approx. C. P.	†Price Each
69133	1180	1	{ 2683, 6961, 6991, 2675, 2684 }	700, 706, 750	2	F.E.-3¾	2.2	.25	¾	\$0.30
69134	1181	2	6992, 6962	751	3	F.E.-3¾	3.3	.25	1½	.30
69143	1182	3	{ 2639, 2602, 2630, 2660, 2661 }	791	2	G-3½	2.3	.27	1	.30
69138	1193	17	{ 2612, 2632, 2618, 2633, 2659, 2637 }	705	3	G-4½	3.8	.30	1½	.30
69140	1195	31	4702	710, 715,	5	G-5½	6.2	.30	2	.30
69137	1198	16	{ 2657, 2604, 2631, 2616, 2634, 2638 }	790	2	G-4½	2.5	.30	1	.30
69139	1199	18	4707, 4708	734, 775	3	G-4½	4	.30	1½	.30
69152	1162		2672, 2674	705			3.8	.30	1½	.45

†All prices on bulbs subject to change without notice.

Illustrations are actual size.



## SWITCHBOARDS

**M**ORE than 700 different power switchboards have been built by the Northern Electric Company, Limited, for purchasers throughout the Dominion of Canada. This includes switchboards of all types and classes, from the simple to the complicated; from low current at low voltage for lighting or battery charging to thousands of amperes for control of street railway, flour, cement or paper mills.

Owing to the great difference in requirements, no attempt is made to list power switchboards in this catalogue.

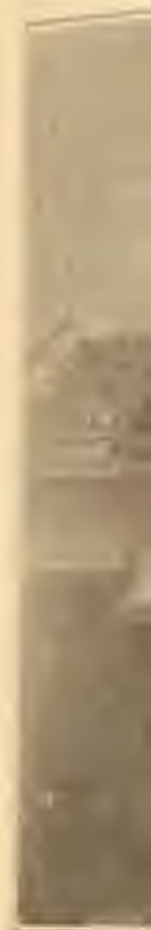
We are equipped to design, build and erect any type of switchboard. Our experience is extensive, our apparatus and equipment modern and comprehensive.

Our Sales Department will quote prices promptly on any proposition where sufficient data accompanies the inquiry. A specialist at our nearest District House will be glad to assist our clients to determine equipment needed. If more convenient, a questionnaire, showing the information required, will be sent upon request.

We take special pride in the superior quality of our apparatus. We are proud also of the extent of our organization which enables us frequently to render exceptional service, to furnish very quickly complete switching equipments of highest quality.

Our Engineering experience and other facilities are at your service, and it will be a real pleasure to be of assistance to you.

These are  
the quality



A new switchboard  
The instrument

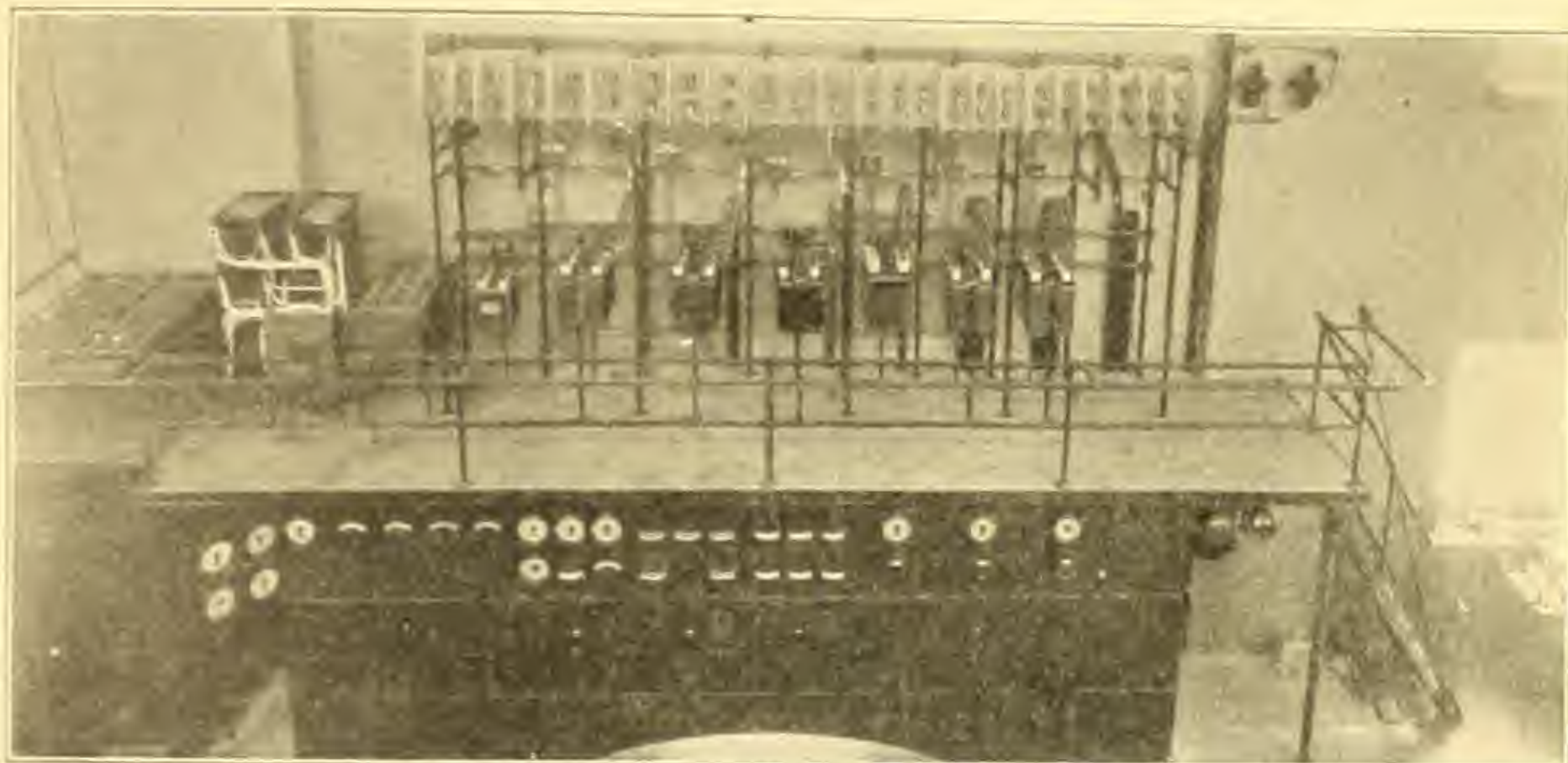


From the  
substation where  
transformer has  
connected by  
disconnecting

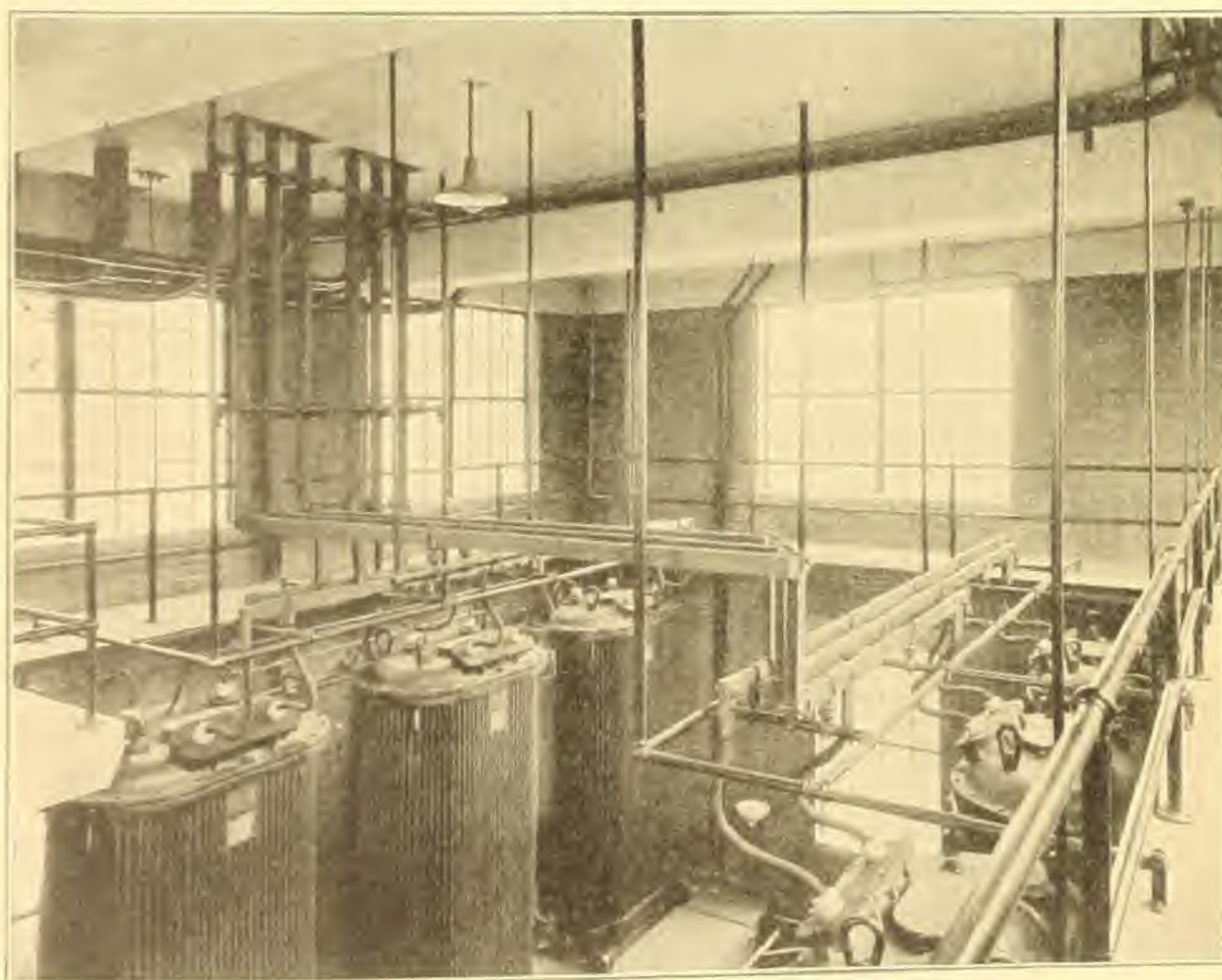


## SWITCHBOARDS

These pages show the switchboards built and installed by the Northern Electric Company for the Quaker Oats Co., at Peterborough, Ontario.



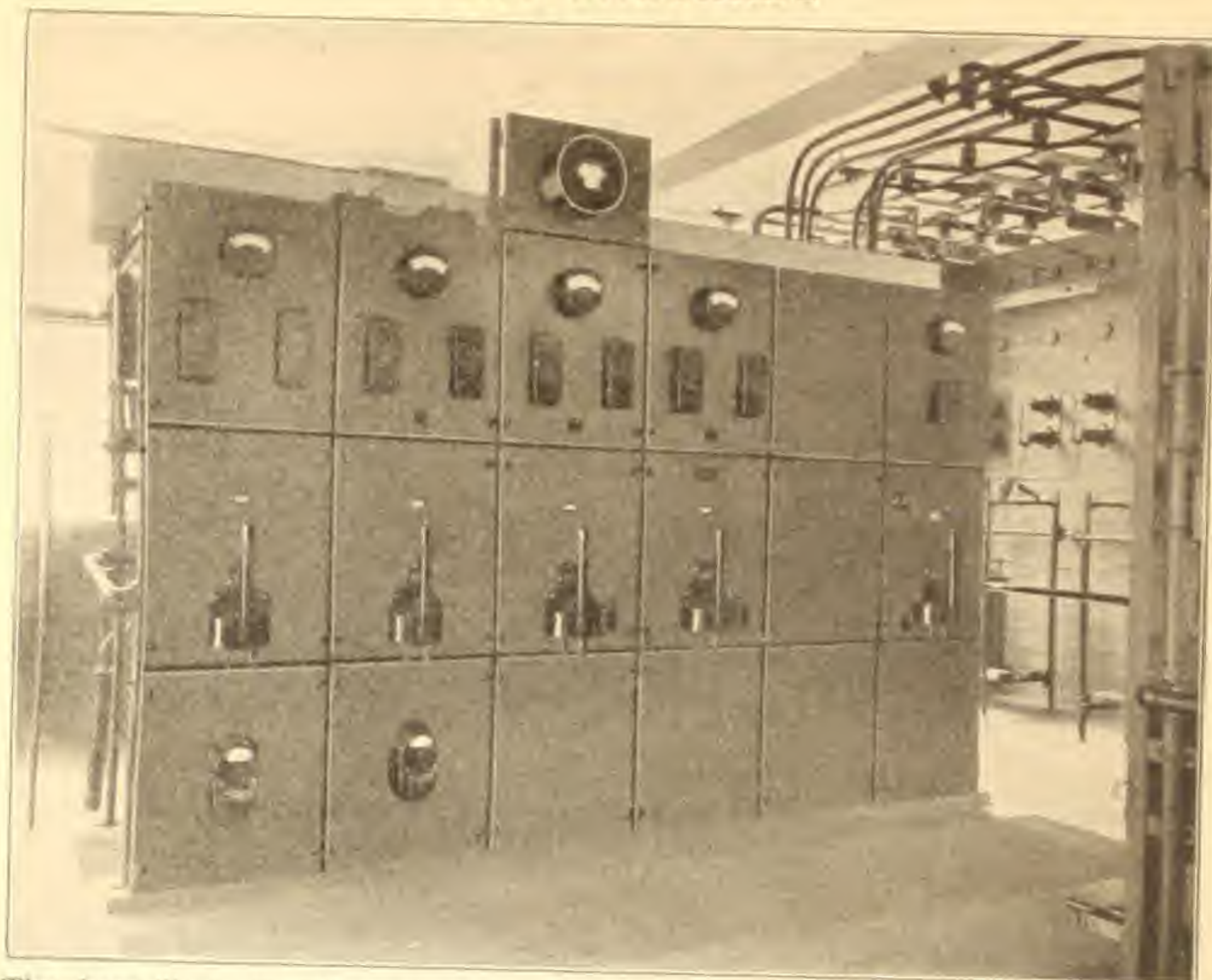
A new switchboard and switching equipment were designed and supplied for the power house. The instruments of the previous switchboard were used on the new panels.



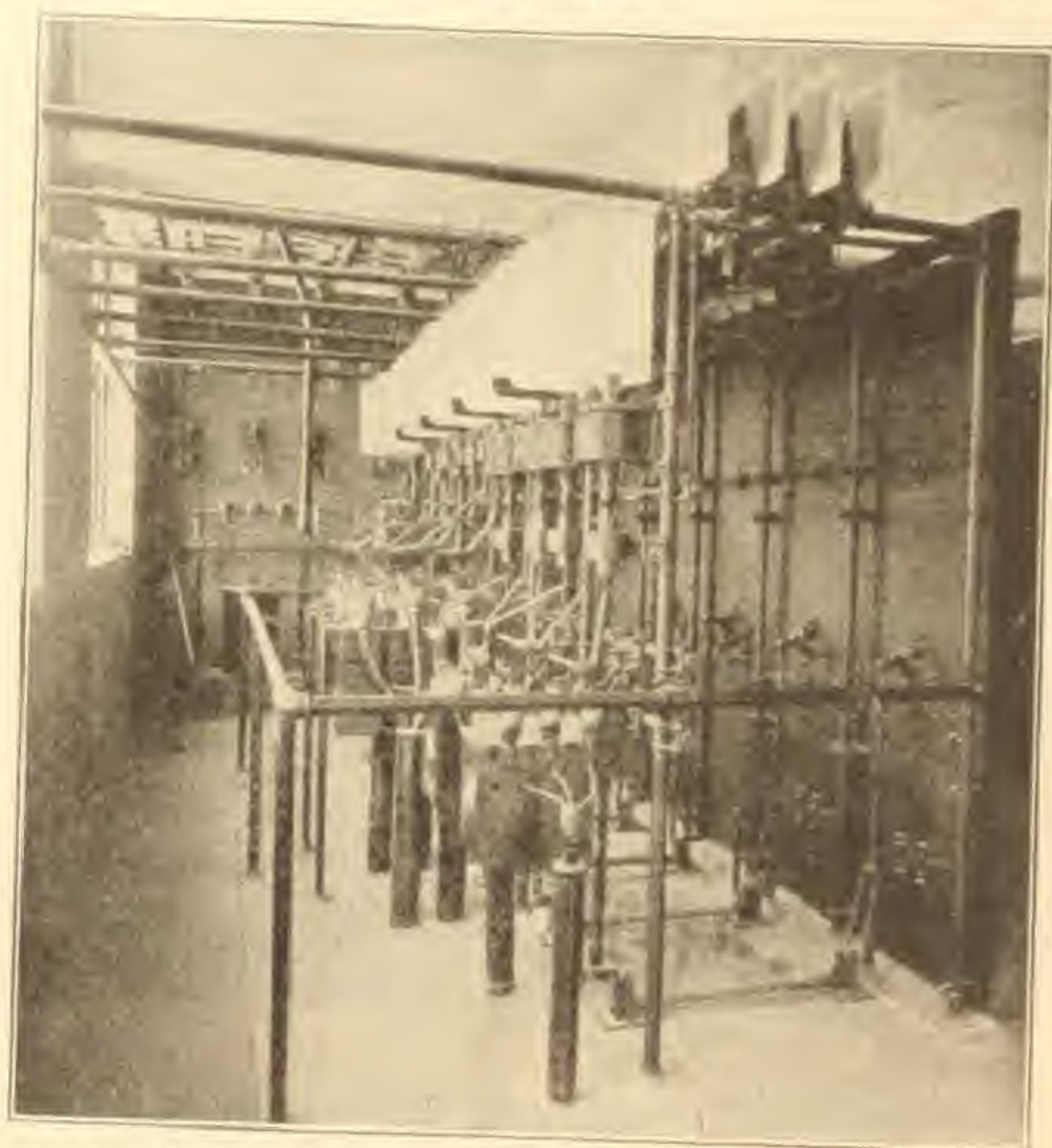
From the power house oil circuit breakers, the 2300-volt power is carried overhead to the substation where it passes through the incoming feeder oil circuit breaker, etc., to the 2-3 phase transformer banks shown above. The secondary or low voltage sides of these transformers are connected by laminated rectangular copper bar as shown and carried upward to the 3000-ampere disconnecting switches shown on the 550-volt switchboard.



## SWITCHBOARDS



The above illustration shows the front of the 2300-volt substation switchboard, together with the line disconnecting switches, choke coils, etc.  
The rear view of this switchboard is shown below.



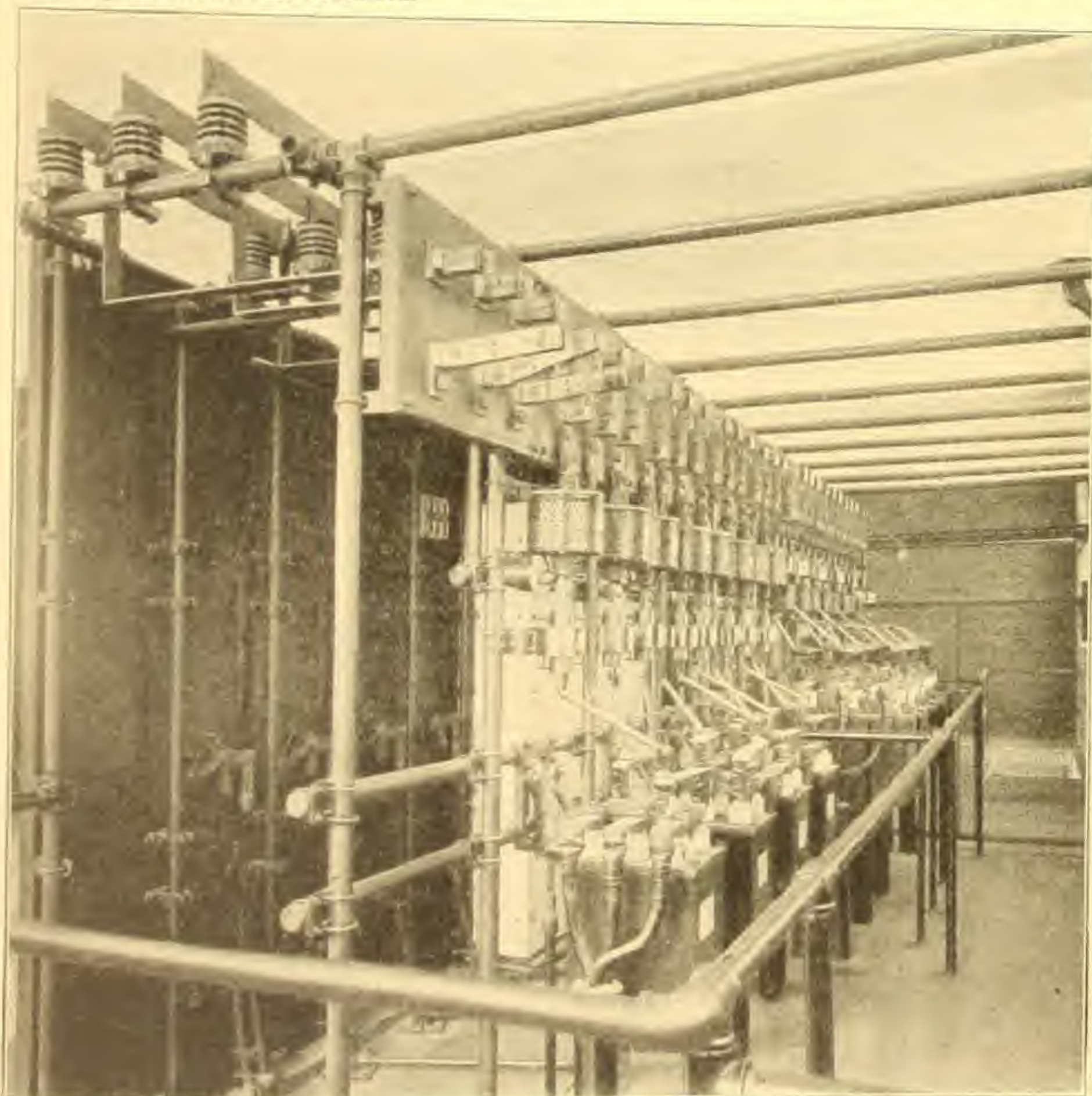
The above illustration shows the rear of the 2300-volt substation switchboard. The oil circuit breakers, disconnecting switches, etc., are all mounted on separate pipe frame behind the panels.



## SWITCHBOARDS



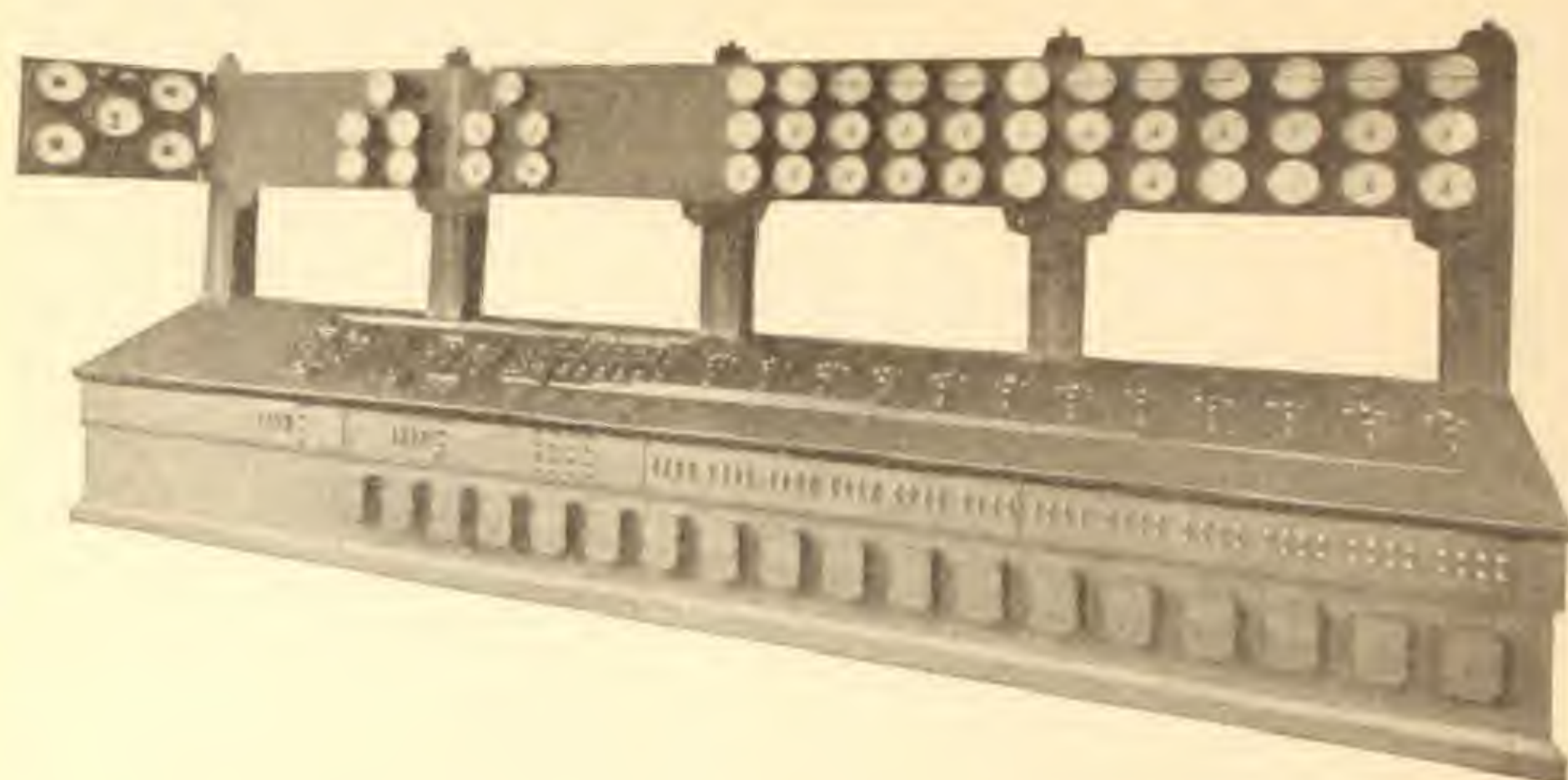
The 550-volt distribution switchboard is here shown. Bars for the secondary deltas of the transformer banks are carried to the bottom studs of the knife switches on center panels and from the upper studs to the bus bars. These knife switches are electrically interlocked with the oil circuit breakers, controlling the primary feeders to the transformers, so that the load currents must be broken by the oil circuit breakers.



This back view of the 550-volt switchboard well illustrates the care taken to ensure reliability. The bus is supported on Northern "Unit Type" 7500-volt supports. The disconnecting switches have double blades and contacts throughout.



## SWITCHBOARDS



The above shows a Bench Board manufactured for the Corporation of Saskatoon. The entire electrically operated remote controlled switching equipment was furnished by the Northern Electric Company, Limited.

The Bench Board illustrated was designed to control 3-5000 K. V. A. generators and 16 Feeders. The bench board may be extended without disturbing the existing equipment.

Test clips are supplied, making it possible to check or calibrate any instrument without disturbing the permanent wiring. Lockout relays are provided for each automatic oil circuit breaker making it impossible to close the breaker on an overload or short circuit, even if the operator holds the control switch in the closed position.



The illustration to the left shows a switchboard panel and frame supplied to the Great Northwest Telegraph Company. We have supplied a number of switchboards to this company, also to the Canadian-Pacific Telegraph Company.

We are prepared to manufacture speedily, special equipment to meet any special requirements, or in accordance with customers' specifications.

Fig. 3

For high  
voltage, and 300  
heavily galva  
Type A1  
Types A and  
also provides



## NORTHERN DISCONNECTING SWITCHES



Fig. 1

Switch Figure 1 is built for 3300 volts and in 100-200-300-400-500-600-800 ampere sizes. The 800A switch has two blades in multiple. Copper portions are bright finished and base is polished Blue Vermont Marble. Base drilled for four supporting screws for mounting on wall or equivalent support.

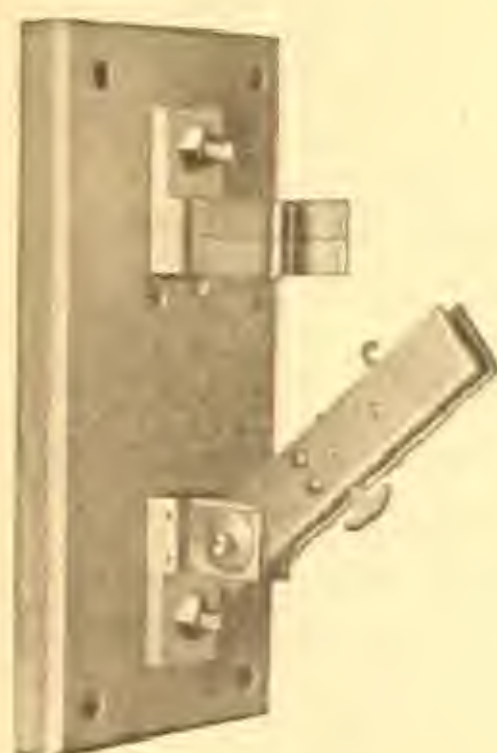


Fig. 2

Figure 2 illustrates a still more substantial 3300-volt switch, built for 300-600-1200-1500 amperes. Multiple blades and contacts used throughout, giving an exceedingly sturdy switch.

A cast hook projects to engage the hook stick. This feature will appeal to anyone who has hunted the usual hole with the end of a long operating stick.

Safety locks may be furnished as shown.



Fig. 3



Fig. 4



Fig. 5

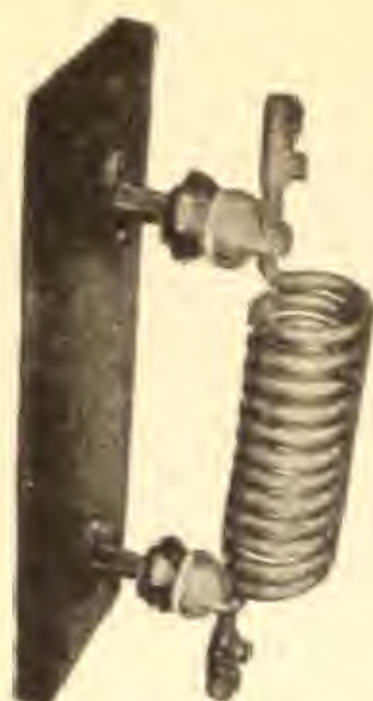
For higher voltages, these three types are available. Built for 7500-15000 and 25000 volts, and 300 and 600 amperes. May be used outdoors if desired as all iron parts are heavily galvanized. Multiple blades and contacts, bright finished.

Type A1 (Fig. 4) is for inverted mounting and is always furnished with lock as shown. Types A and A2 (Figs 3 and 5) are furnished with hooks as shown in Fig. 2, and safety locks provided when ordered.

Prices Quoted on Application.



## NORTHERN CHOKE COILS



7500-volt Coil

## 7500-VOLT CHOKE COILS

"AC" Feeder Type Choke Coils are made for 7500 volts and 200-300-400-500 amperes. The heavy copper coil is mounted on line insulators supported from channel iron or slate base. Substantial cable lugs are provided.



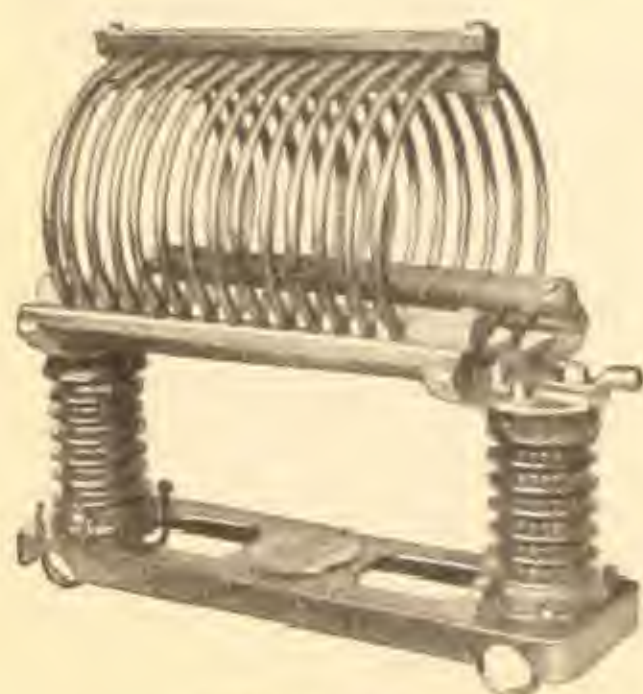
25000-volt Coil

## 25000-VOLT CHOKE COILS

This type is insulated for 25000-volt service and is furnished in 200 and 300-ampere capacity. The coil is 15 inches in diameter and is strongly braced to withstand severe strains. Treated wood is used to hold apart the adjacent turns and to add rigidity to the entire coil.

These coils can be furnished on Types A-1 and A-2 holders, if desired.

Coils insulated for higher voltages can also be furnished.



15000-volt Coil

## 15000-VOLT CHOKE COILS

This illustration shows another Northern design for high voltage station service. The heavily braced copper coil is 9 inches in diameter, securely fastened at both ends to the terminal castings.

The insulators are Northern "Unit Type" which may be had for 7500-15000 or 25000-volt service.

The cast base is designed either for mounting on 1 1/4-inch diameter pipe as shown or on a flat surface by bolts.

Prices upon Application

NORT



Type A Holder



Type A-2 Holder

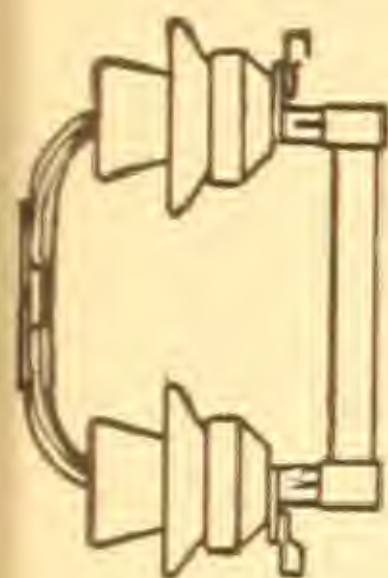
Give voltage to be used so that Standard dimensions can be given.

Standard dimensions. Note that for use where the recessed dimensions are required. Give voltage.

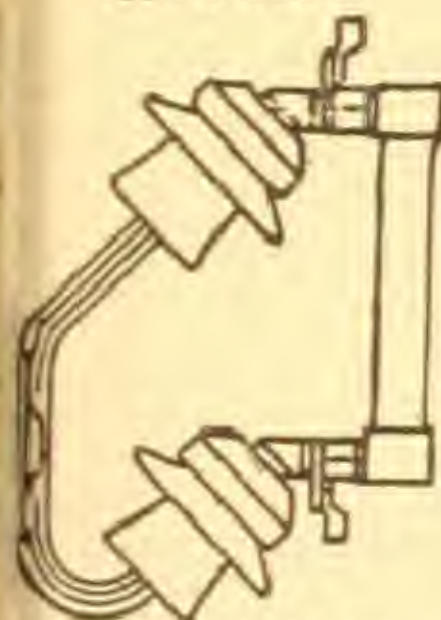
Standard dimensions. Grounding. Give length.



## NORTHERN FUSE HOLDERS, TONGS, AND HOOK STICKS



Type A Holder



Type A-2 Holder

### HOLDERS FOR S AND C FUSES

#### Type A

Volts	Space Required Inches	Shipping Wt., Lbs.
7500	6 x 8 1/2 x 14 1/2	36
15000	6 1/2 x 10 3/4 x 18	54
22000	7 1/2 x 13 1/4 x 18	67
33000	9 x 16 1/2 x 24	120
44000	11 x 21 x 29	200
66000	15 x 25 x 39	270

#### Type A-2

Volts	Space Required Inches	Shipping Wt., Lbs.
7500	6 x 12 x 16 1/2	40
15000	6 1/2 x 14 1/2 x 21 1/2	60
22000	7 1/2 x 16 1/4 x 25	75
33000	9 x 17 x 28 1/2	130
44000	11 x 19 x 34	220
66000	15 x 20 x 44	290

Give voltage and ampere rating of fuse when ordering holders, and state size of cable to be used so that proper fuse clips and cable lugs can be furnished.

Standard holders have insulators with chocolate glaze. All iron parts, including screws and washers, are galvanized suitably for outdoor service.

Dimensions given are for reference.

### TONGS FOR S AND C FUSES



Standard tongs are made in 6 and 10-foot lengths.

Note that the recess in head of tongs for the barrel of fuse is at right angles to the handle. For use where the above type cannot be easily operated we can furnish another design, slide type, where the recess is at an oblique angle to the handle.

Give voltage and ampere rating of fuses when ordering fuse tongs.

### HOOK STICKS



Standard hook sticks of this type can be furnished in any length from 4 to 14 feet. Grounding chain and fittings can be furnished for standard hook sticks.

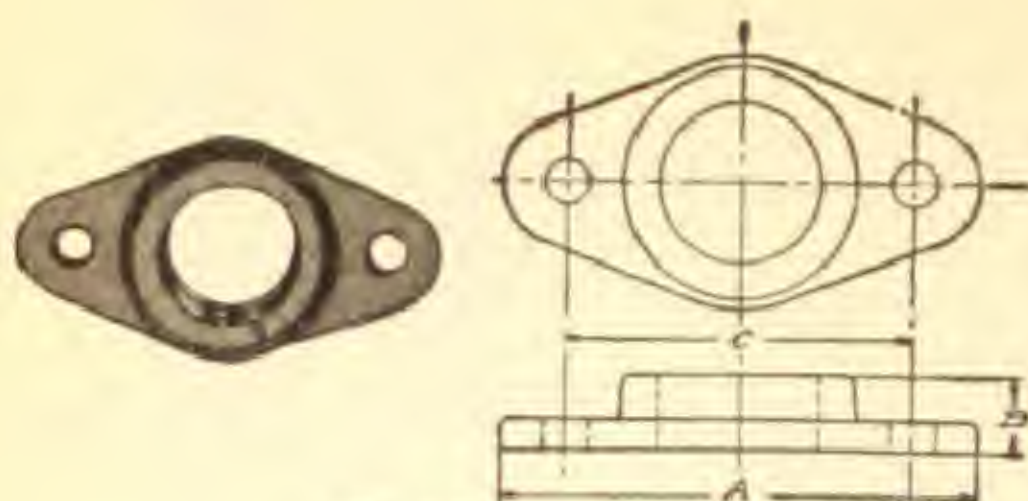
Give length of stick or chain when ordering.

Prices on Application



## MALLEABLE PIPE FITTINGS

FOR SWITCHBOARD AND BUS RACKS

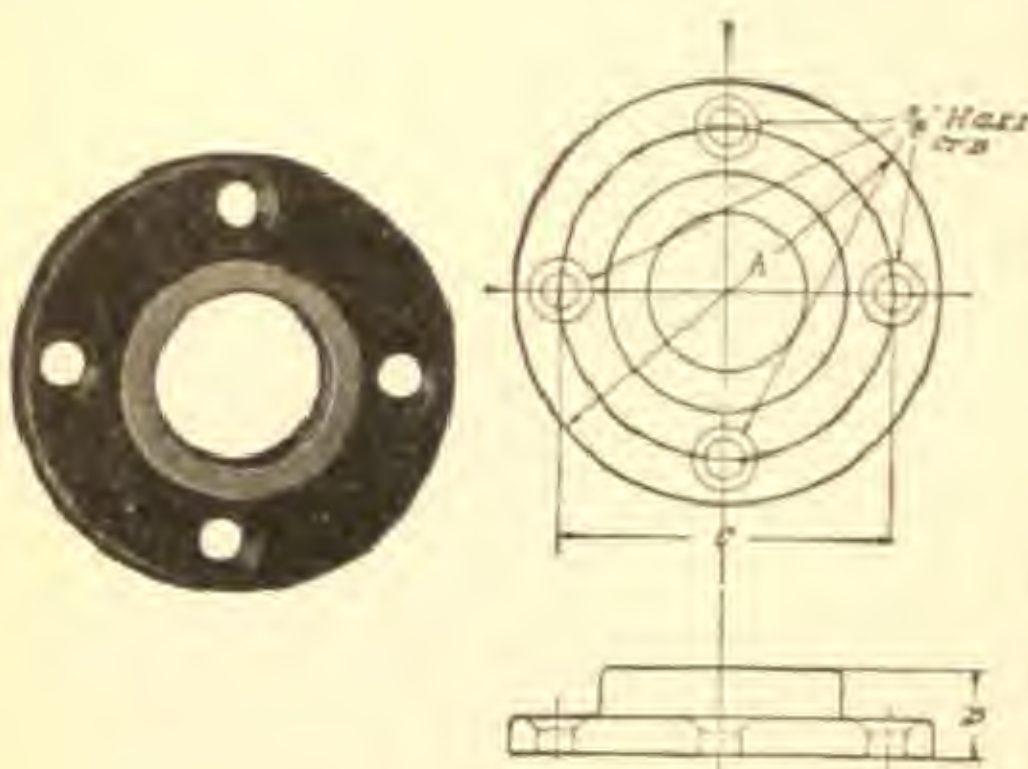


Oval Floor Flange 1

## OVAL FLOOR FLANGES

Mfrs. No.	Pipe Size Inches	DIMENSIONS, INCHES			Price Each
		A	B	C	
1643	$\frac{3}{4}$	$3\frac{5}{8}$	$\frac{3}{4}$	$2\frac{5}{8}$	\$0.28
5120	1	4	$\frac{5}{8}$	$2\frac{5}{8}$	.34
1651	$1\frac{1}{4}$	$4\frac{3}{4}$	$\frac{5}{8}$	$3\frac{7}{8}$	.40
5092	$1\frac{1}{2}$	$5\frac{1}{8}$	$\frac{5}{8}$	$3\frac{5}{8}$	.52
5093	2	6	$\frac{5}{8}$	$4\frac{1}{2}$	.80

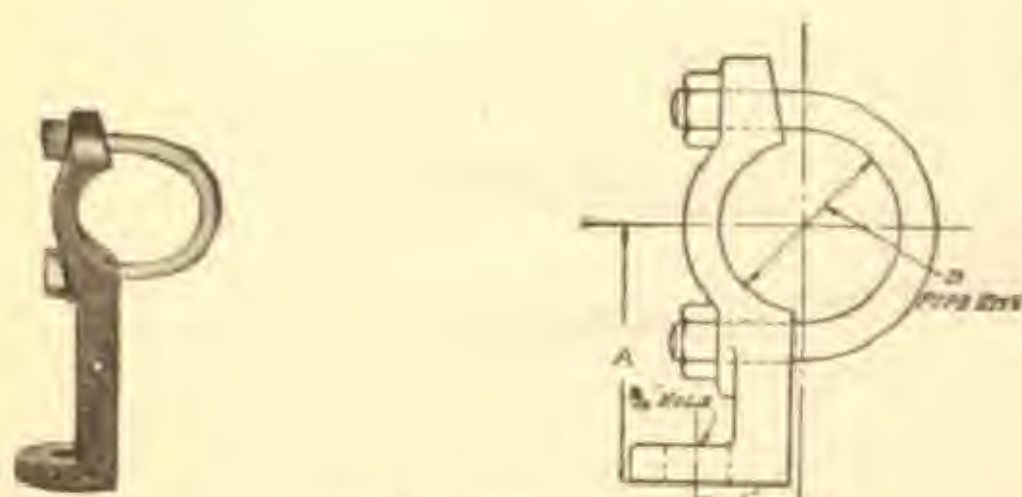
## Round Floor Flanges



Round Floor Flange

Mfrs. No.	Pipe Size Inches	DIMENSIONS, INCHES			Price Each
		A	B	C	
5130	$\frac{3}{4}$	$3\frac{5}{8}$	$\frac{5}{8}$	$2\frac{5}{8}$	\$0.41
5131	1	4	$\frac{5}{8}$	$2\frac{7}{8}$	.48
1668	$1\frac{1}{4}$	4	$\frac{7}{8}$	$3\frac{1}{8}$	.62
5091	$1\frac{1}{2}$	$4\frac{1}{2}$	$\frac{7}{8}$	$3\frac{1}{2}$	.96
5094	2	$5\frac{1}{2}$	1	$4\frac{1}{4}$	1.20

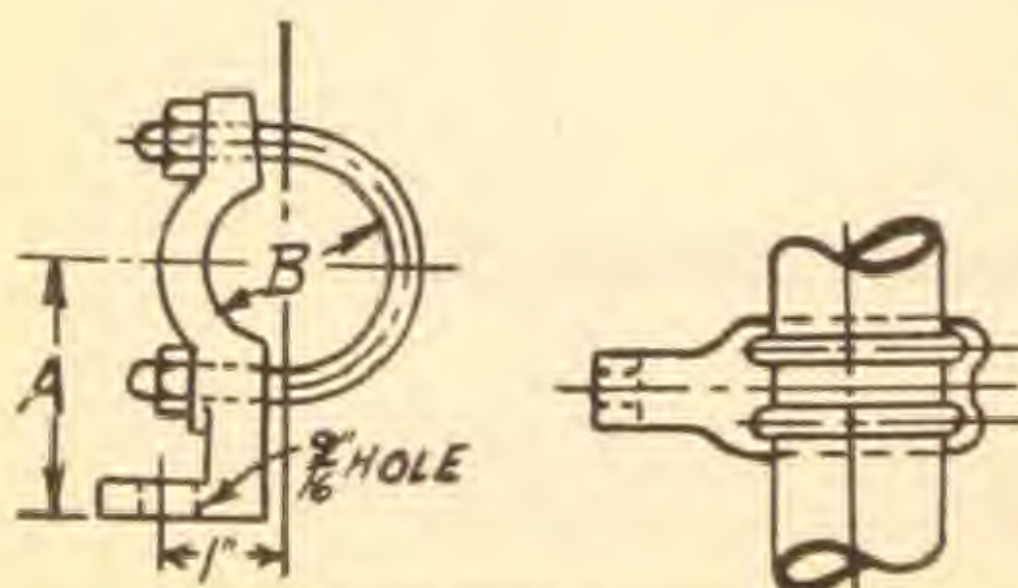
## SINGLE PANEL SUPPORTS



Single Panel Support

Mfrs. No.	DIMENSIONS, INCHES		Price Each
	A	B	
1513	$2\frac{1}{2}$	$\frac{3}{4}$	\$0.44
1520	$4\frac{1}{2}$	$\frac{3}{4}$	.48
1519	$2\frac{1}{2}$	1	.52
1528	$4\frac{1}{2}$	1	.56
1618	$2\frac{1}{2}$	$1\frac{1}{4}$	.60
1687	$4\frac{1}{2}$	$1\frac{1}{4}$	.72
1514	$2\frac{1}{2}$	$1\frac{1}{2}$	.64
1523	$4\frac{1}{2}$	$1\frac{1}{2}$	.74
1517	$2\frac{1}{2}$	2	.68
1526	$4\frac{1}{2}$	2	.80

## SINGLE PANEL SUPPORTS



Single Panel Support

## Two U-bolts

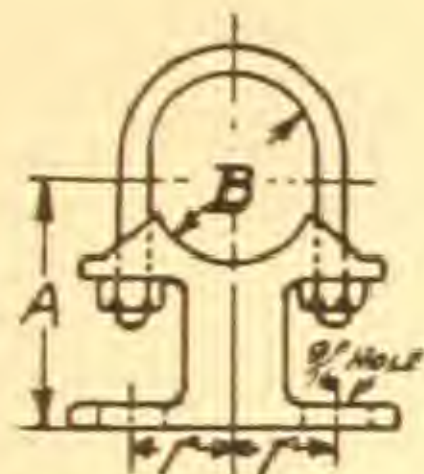
Mfrs. No.	DIMENSIONS, INCHES		Price Each
	A	B—Pipe Size	
9406	$2\frac{1}{2}$	$\frac{3}{4}$	\$0.72
9407	$4\frac{1}{2}$	$\frac{3}{4}$	.76
9408	$2\frac{1}{2}$	1	.80
9409	$4\frac{1}{2}$	1	.84
9410	$2\frac{1}{2}$	$1\frac{1}{4}$	.94
411	$4\frac{1}{2}$	$1\frac{1}{4}$	1.06
412	6	$1\frac{1}{4}$	1.14
413	10	$1\frac{1}{4}$	1.30
414	$2\frac{1}{2}$	$1\frac{1}{2}$	1.06
9415	$4\frac{1}{2}$	$1\frac{1}{2}$	1.18
9416	6	$1\frac{1}{2}$	1.28
9417	10	$1\frac{1}{2}$	1.72
9418	$2\frac{1}{2}$	2	1.14
9419	$4\frac{1}{2}$	2	1.26
9420	6	2	1.36
9421	10	2	1.80



# MALLEABLE PIPE FITTINGS

FOR SWITCHBOARD AND BUS RACKS

## U-DOUBLE PANEL SUPPORTS



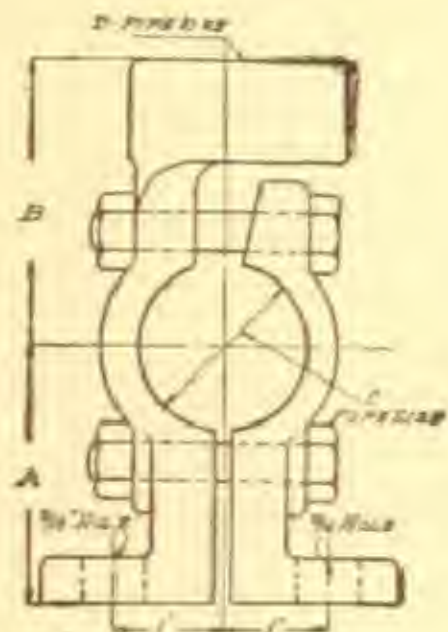
U-double Panel Support

Mfrs. No.	DIMENSIONS, INCHES		Price Each
	A	B-Pipe Size	
1623	2 1/2	1 1/4	\$0.64
1522	4 1/2	1 1/4	.78
9036	6	1 1/4	.96
9037	10	1 1/4	1.32
5000	2 1/2	1 1/2	.86
5001	4 1/2	1 1/2	.90
9038	6	1 1/2	1.00
9039	10	1 1/2	1.40
5002	2 1/2	2	1.00
5003	4 1/2	2	1.06
9040	6	2	1.20
9041	10	2	1.60

This support can be furnished for horizontal pipe runs instead of vertical at the same price.

## DOUBLE PANEL SUPPORTS

With Tap for Horizontal Brace



Double Panel Support  
with Tap for Horizontal Brace

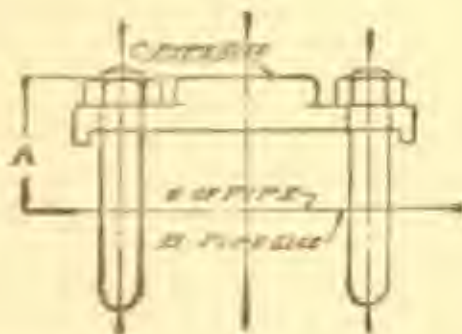
Mfrs. No.	DIMENSIONS, INCHES				Price Each
	A	B	C	D	
1530	2 1/2	2 1/4	3/4	3/4	\$0.86
1534	4 1/2	2 1/4	3/4	3/4	.98
1612	2 1/2	2 1/4	1 1/4	3/4	1.36
1538	4 1/2	2 1/4	1 1/4	3/4	1.56
1532	2 1/2	2 1/2	1 1/4	1	1.48
1539	4 1/2	2 1/2	1 1/4	1	1.64
1610	2 1/2	2 3/4	1 1/4	1 1/4	1.56
1540	4 1/2	2 3/4	1 1/4	1 1/4	1.72
5018	2 1/2	2 3/4	1 1/2	1 1/4	1.60
5019	4 1/2	2 3/4	1 1/2	1 1/4	1.76
5021	2 1/2	3	2	1 1/4	1.68
5031	4 1/2	3	2	1 1/4	1.84

## CLAMP TEES

U-bolt Type Threaded Outlet, 90 Degrees



U-bolt Clamp Tee

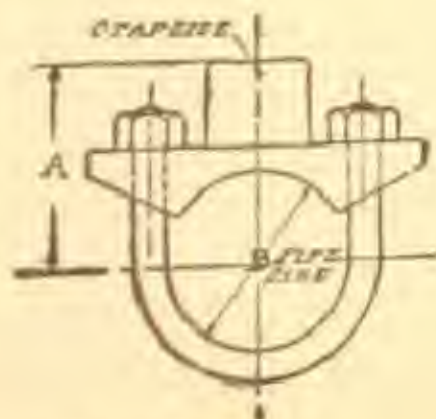


Mfrs. No.	DIMENSIONS, INCHES			Price Each
	A	B Pipe Size	C Pipe Size	
5174	1 9/16	3/4	3/4	\$0.75
5175	1 11/16	1 1/4	3/4	.88
5176	1 13/16	1 1/4	1 1/4	.92
5177	2	1 1/2	1 1/4	1.19
5178	2 1/8	1 1/2	1 1/2	1.41
9282	2 1/8	2	1 1/4	1.48
5179	2 1/2	2	1 1/2	1.50
5180	2 5/8	2	2	1.66
9945	...	2 1/2	1 1/2	1.76
9946	...	2 1/2	2	2.10
9947	...	2 1/2	2 1/2	2.40

## U-BOLT CLAMP TEE STUDS



U-bolt Clamp Tee Stud



Mfrs. No.	DIMENSIONS, INCHES			Price Each
	A	B	C	
5041	1 9/16	3/4	3/8-16	\$0.54
5042	1 9/16	3/4	1/2-12	.54
5043	1 9/16	3/4	1/2-13	.54
5045	1 9/16	3/4	5/8-11	.54
5035	2 1/16	1 1/4	3/8-16	.60
5046	2 1/16	1 1/4	1/2-12	.60
5036	2 1/16	1 1/4	1/2-13	.60
5037	2 1/16	1 1/4	5/8-11	.60
5145	2 1/16	1 1/4	3/4-10	.60



## MALLEABLE PIPE FITTINGS

FOR SWITCHBOARD AND BUS RACKS

## U-BOLT CLAMP CROSSES



Mfrs. No.	Pipe Size, Inches		Price Each	Mfrs. No.	Pipe Size, Inches		Price Each
	Vertical	Horizontal			Vertical	Horizontal	
5181	$\frac{3}{4}$	$\frac{3}{4}$	\$1.32	5186	$1\frac{1}{4}$	$1\frac{1}{4}$	\$1.56
5182	1	$\frac{3}{4}$	1.34	5187	$1\frac{1}{2}$	$1\frac{1}{4}$	1.63
5183	$1\frac{1}{4}$	$\frac{3}{4}$	1.36	5188	$1\frac{1}{2}$	$1\frac{1}{2}$	1.74
5184	1	1	1.50	5189	2	$1\frac{1}{2}$	2.20
5185	$1\frac{1}{4}$	1	1.52	5190	2	2	2.25

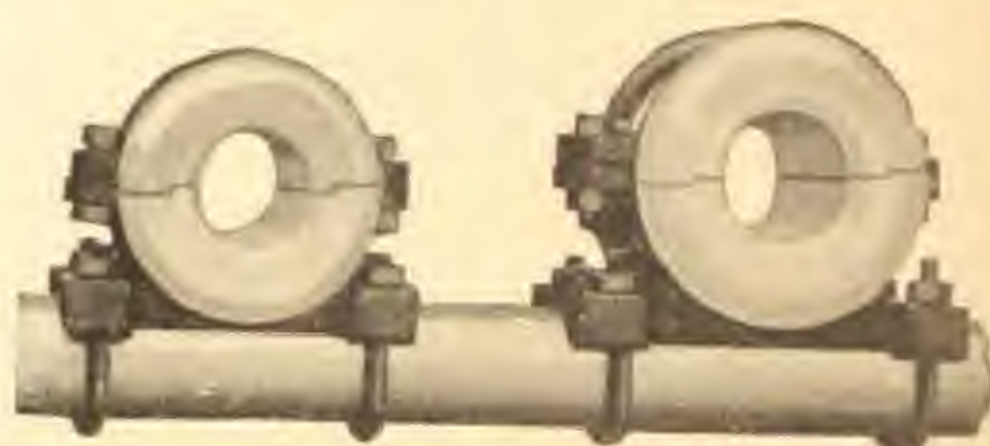
The above fittings are typical of our complete line. We have fittings to suit any type of joint required in a pipe structure.

## BUS BAR SUPPORTS

Clamp Insulator Type, for Round Bus



Flat Mounting Types



Single Pipe Mounting Types

These Clamp Insulator Supports make a strong, serviceable and inexpensive device for carrying electrical conductors in power houses, substations, industrial plants, factories, mines, steel mills, etc.

**EASE OF INSTALLATION.**—These supports are very simple to install. The top clamp is held to the base casting by a separate set of machine bolts and not by the holding down bolts for the flat mounting type or the U Bolts of the pipe mounting type. This permits of accurate alignment of supports before the conductors are put in place.

**INTERCHANGEABILITY.**—All Clamp Insulator Supports have been designed so that the base can be mounted upon either a pipe frame or upon a flat surface. In other words, by omitting the U Bolts from the pipe mounting type the same becomes the flat mounting type.

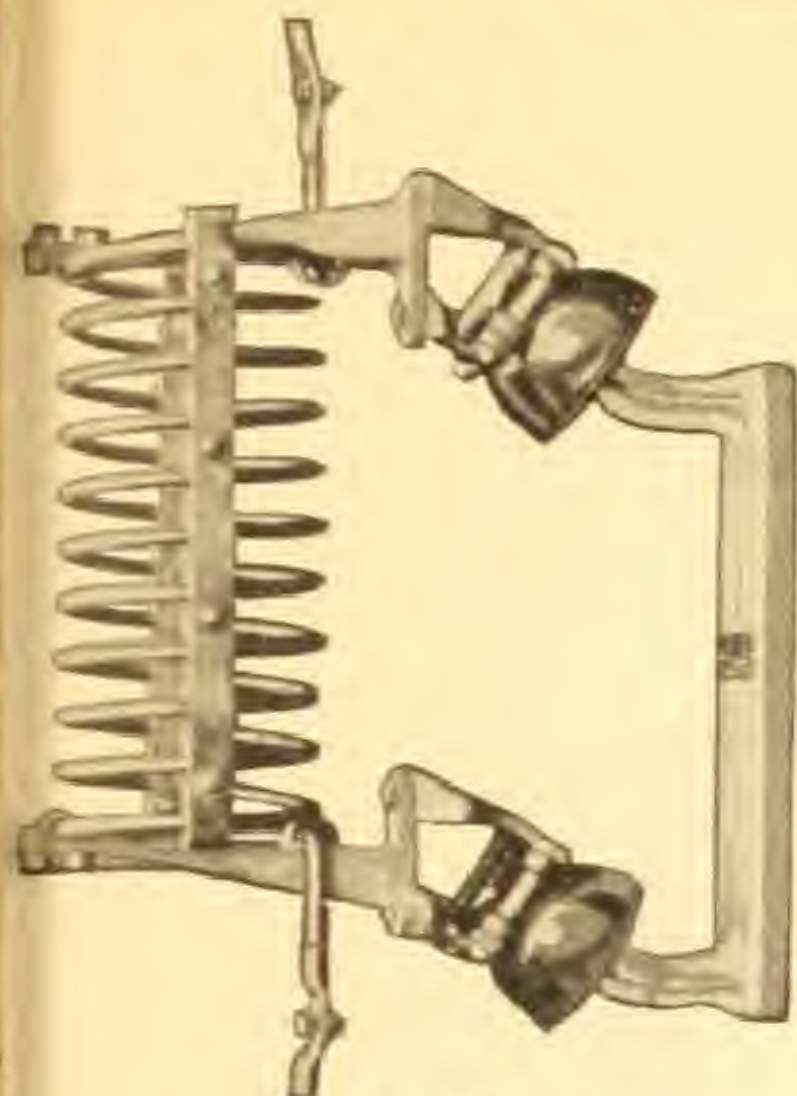
**MATERIALS.**—The metal parts of these supports are made of a good grade of malleable iron. For alternating current service, however, the clamping half is made of composition metal to prevent losses due to heating. The porcelain parts are made of dry process porcelain, white glazed.

**VOLTAGE RATING.**—These supports can be used upon any voltage when the conductor is insulated for this particular pressure. They can be used with bare conductor up to and including 600 volts.

In addition to the above, we carry a complete line of indoor and outdoor bus supports for all voltages up to and including 80000 volts.



## FARM LINE SWITCHING AND PROTECTIVE EQUIPMENT



Choke Coil

This equipment is especially adapted for moderate capacity lines and transformer stations, and is suitable for flat surface or cross arm mounting.

### CHOKE COILS

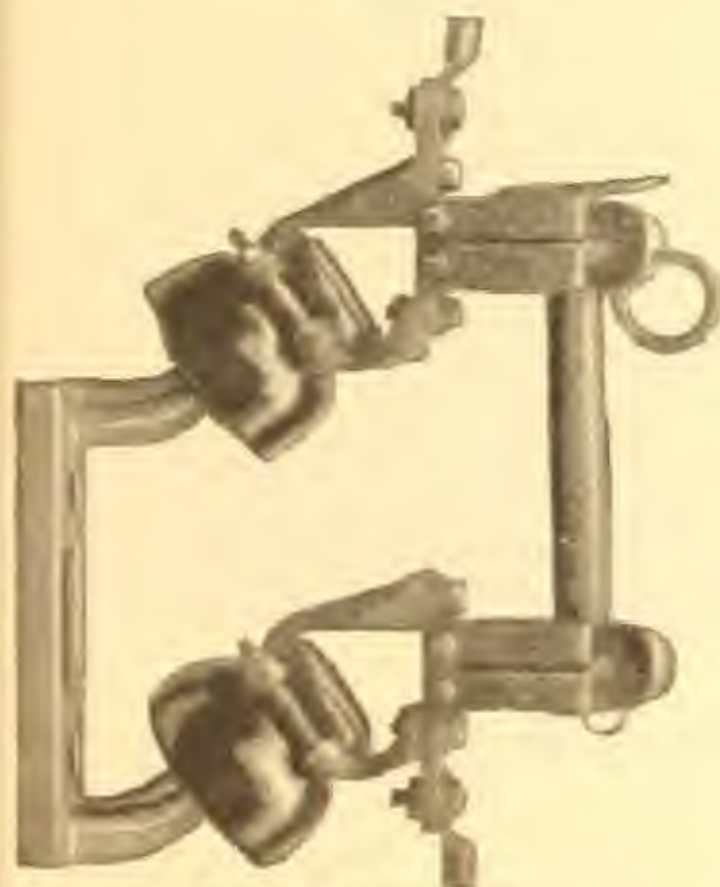
25-ampere Capacity

#### Vertical

Mfrs. No.	Voltage	Price Each
79020	4000	\$30 00
79021	7500	34 00
79022	15000	40 00
79023	25000	50 00

#### Horizontal

79016	4000	30 00
79017	7500	34 00
79018	15000	40 00
79019	25000	50 00



Fused Disconnect

### FUSED DISCONNECTS

Fused up to 75 Amperes

Mfrs. No.	Voltage	Price Each
79024	4000	\$20 00
79025	7500	24 00
79026	15000	30 00
79027	25000	40 00

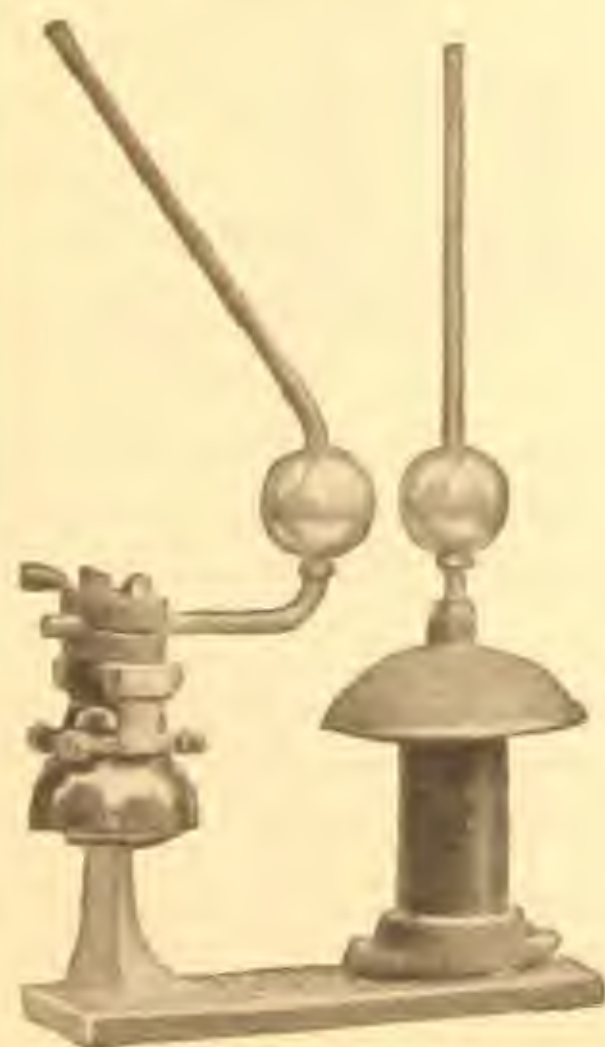
### LIGHTNING ARRESTERS

Mfrs. No.	Voltage	Price Each
79012	4000	\$30 00
79013	7500	58 20
79014	15000	83 25
79015	25000	100 00

This light station equipment has been designed to meet the increasing demand for a substantial, low in first cost, self-maintaining rural sub-station.

It is made up in separate units so that each unit can be placed at points on the line where it will give the greatest service.

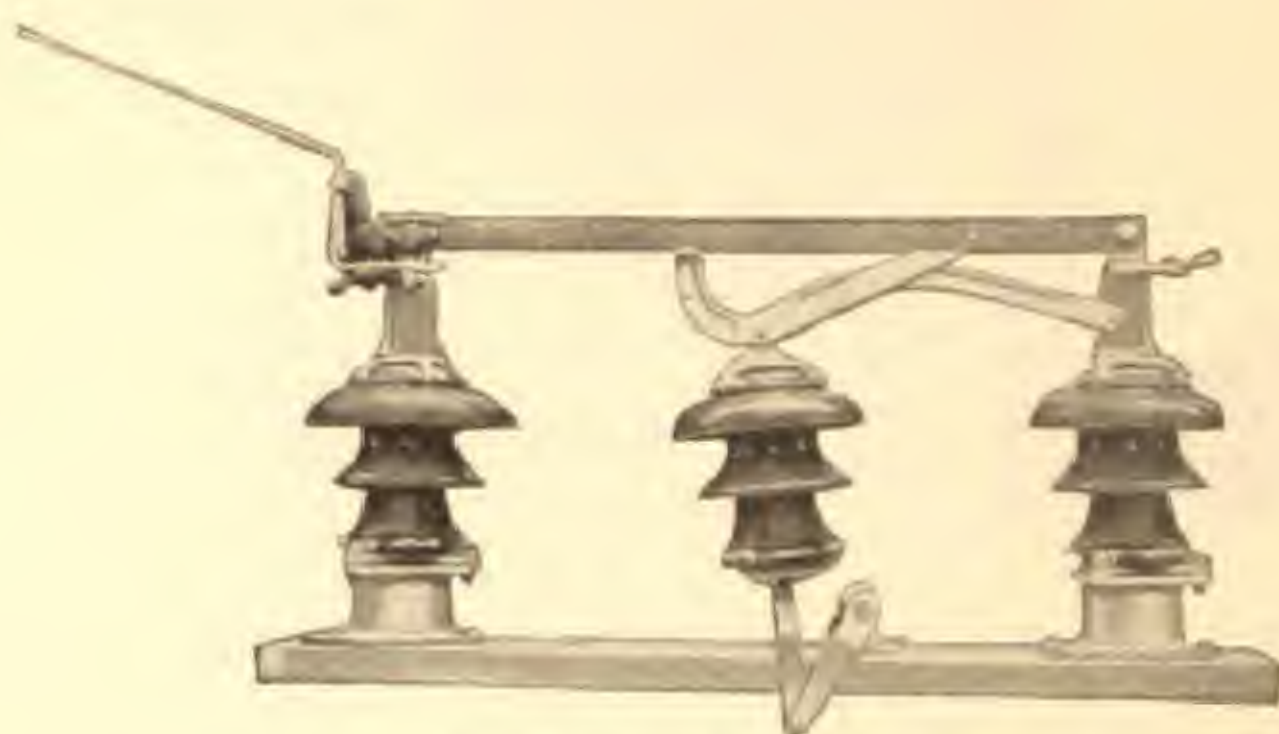
In addition to the above, we carry a complete line of switching and protective equipment for all voltages up to 100000.



Lightning Arrester



## DIRECT BREAK OUTDOOR DISCONNECTS



Single Pole of No. 1135, 35000-volt  
T. P. S. T. Pole Top Disconnect

The above cut illustrates a single pole of a 35000-volt, triple pole, gang operated, outdoor pole top, load break, disconnect switch.

**TYPES.**—The 1100 Type Switch is arranged for horizontal mounting. The 2200 Type is arranged for vertical mounting.

**CONSTRUCTION.**—These switches are constructed with the idea in mind of giving to the operating engineer a line of rugged switching equipment which will give service.

The insulator is a specially constructed line insulator, arranged for clamped connection at both top and bottom, and having a maximum of both mechanical and electrical strength.

The base is channel iron. All corrosive parts, including the operating mechanism and base, are hot dipped galvanized.

**OPERATION.**—The natural tendency of an electric arc is to rise. The blade of the switch moves in the general direction of the arc, at the same time increasing the gap which gradually increases the resistance. The result is that the arc is effectively broken without causing appreciable line surges.

The operating mechanism consists of a system of simple levers which has sufficient leverage to give a quick break. The circuit is broken on the arcing horns and sleet hood after the blades leave the clips. This eliminates any chance of the arc burning the clips or blades.

Built up porcelain is far stronger under tensile or compression strains than under torsion. The insulators on this equipment are never subjected to torsional strains.

Standard for all voltages up to 80000.

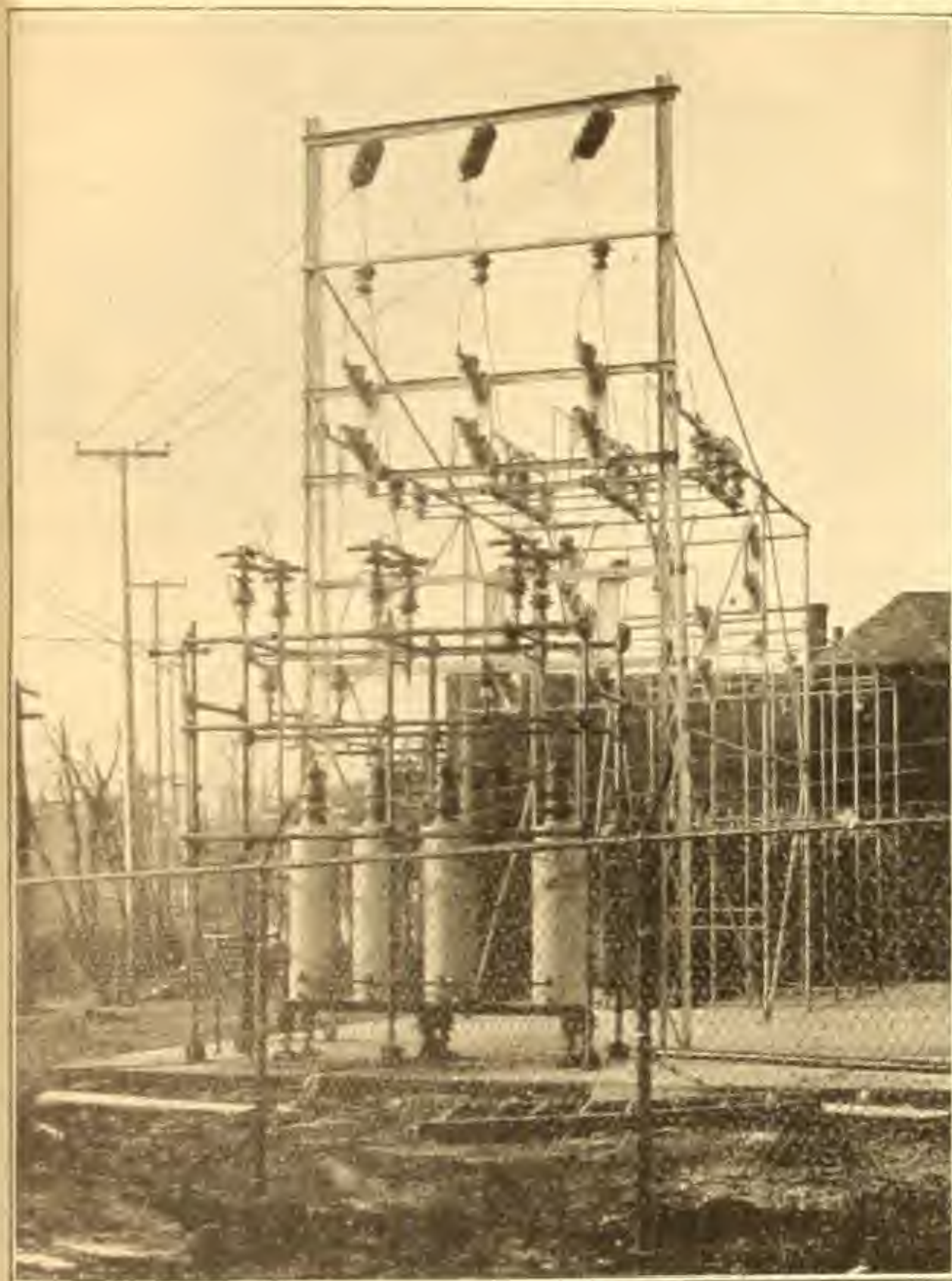
COMBINA





## SUB-STATION EQUIPMENT

### OUTDOOR SUB-STATIONS



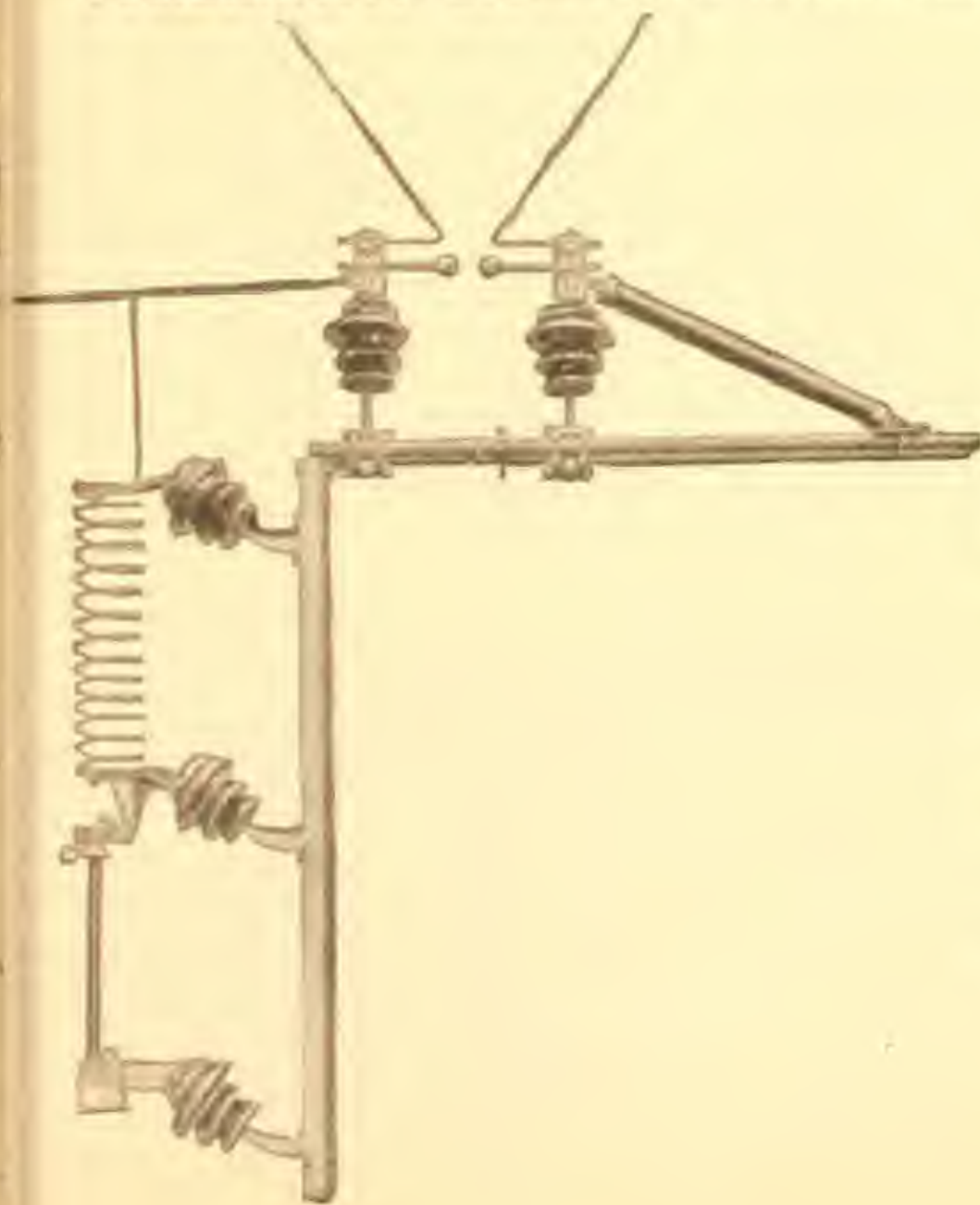
As each outdoor sub-station varies as to location, arrangement of equipment, load, voltage, and the result desired, it is a problem in itself.

We are in a position to give expert advice on the layout of these stations, and are prepared to furnish proposals for station structures and switching equipment to meet any condition.

The accompanying cut illustrates a 33000-2300-volt switching and transformer station, mounted on standard 2-inch galvanized pipe.

These structures are low in first cost, easy to erect, and mechanically strong.

### COMBINATION LIGHTNING ARRESTER, CHOKE COIL, SWITCH AND FUSE



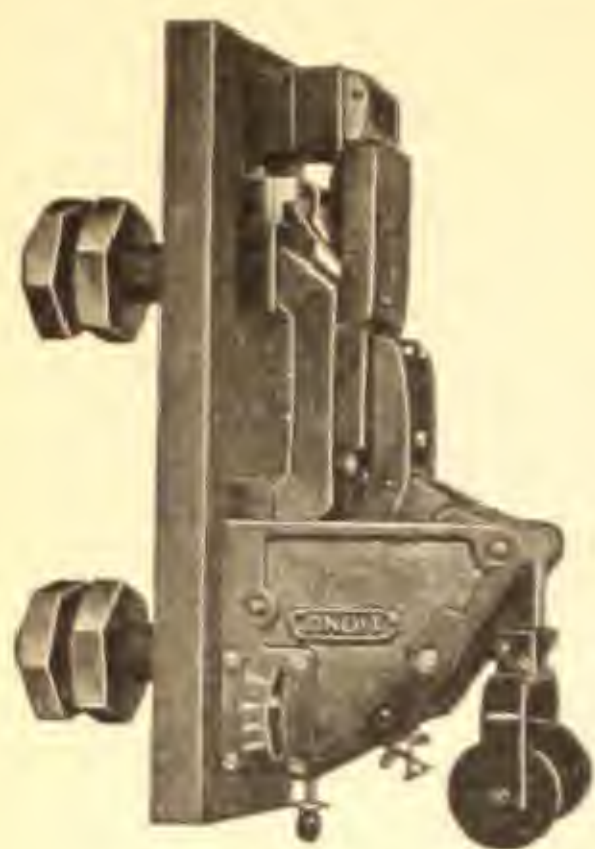
This apparatus, designed for use in connection with small transformer stations, consists of a horn and sphere gap lightning arrester, a choke coil and a combined expulsion fuse and disconnect switch, arranged so that they may be readily mounted on cross arms.

The disconnect fuse can be removed from the clips or replaced with an ordinary switch stick, and can be refilled in a few minutes by the operator on the ground.

This equipment is especially adapted for small industrial stations.



## CONDIT AIR CIRCUIT BREAKERS



TYPE K-1

For Alternating or Direct Current

The Type K-1 air circuit breakers are recommended for use on switchboards in industrial plants, railways and central stations for protecting generators, motors, storage batteries and distributing circuits.

They are built for heavy duty and designed to meet emergencies where the service is severe. They can be obtained for rear connection in capacities from 100 to 8000 amperes, 650 volts or less, D.C. or A.C., for either single, two, three or four poles, manual or electrical remote control operation.

Volts	AMPERE RATINGS 30 DEGREES RISE (CENT)			Single-pole		Double-pole		Triple-pole	
	D. C.	25 Cycles	60 Cycles	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
650	100	100	100	167777	\$108 00	167789	\$221 00	167801	\$332 00
650	200	200	200	167778	116 00	167790	237 00	167802	356 00
650	300	300	300	167779	120 00	167791	245 00	167803	368 00
650	400	400	400	167780	127 00	167792	259 00	167804	389 00
650	600	600	600	167781	137 00	167793	279 00	167805	419 00
650	800	700	700	167782	150 00	167794	305 00	167806	458 00
650	1200	1200	1200	167783	192 00	167795	389 00	167807	584 00
650	1600	1500	1400	167784	240 00	167796	485 00	167808	728 00
650	2000	1900	1800	167785	300 00	167797	605 00	167809	908 00
650	3000	2500	2000	167786	415 00	167798	835 00	167810	1253 00
650	4000	3500	2700	167787	550 00	167799	1105 00	167811	1658 00
650	5000	4400	3300	167788	730 00	167800	1465 00	167812	2198 00
650	6000			} Prices and information upon application.					
650	8000								

## ATTACHMENTS

Trade No.	Description	Shipping Wt., Lbs.	Price Each
167813	*Under voltage attachment, Type V-2, 110 or 220 volts.....	12	\$29 60
167814	*Under voltage attachment, Type V-2, 440 or 550 volts.....	12	33 00
167815	*Shunt trip attachment, Type VS, 110 or 220 volts.....	12	29 60
167816	*Shunt trip attachment, Type VS, 440 or 550 volts.....	12	33 00

\*When ordering, give voltage, whether DC or AC; if AC state frequency.

## APPROXIMATE BOXED WEIGHTS IN POUNDS

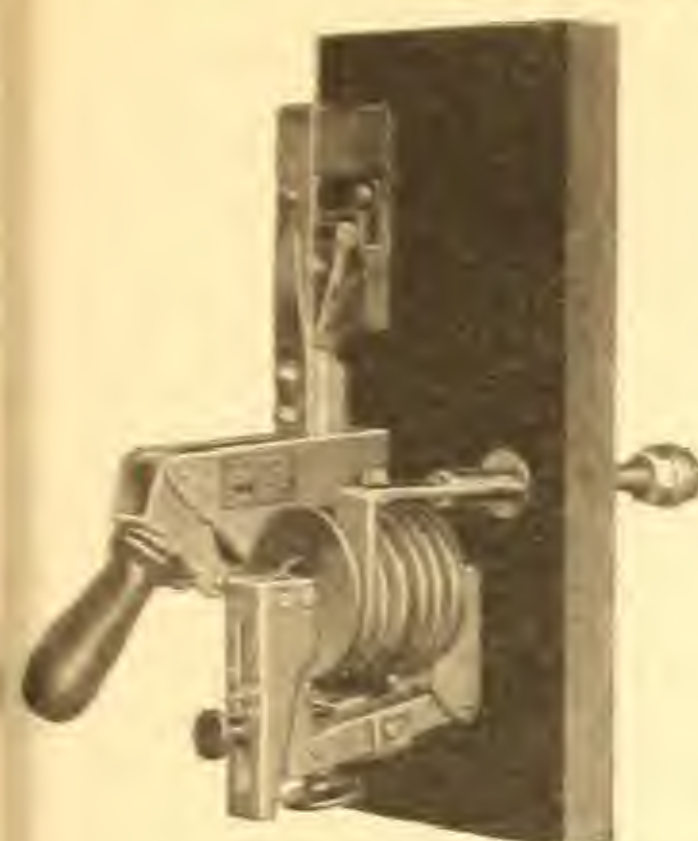
	Single-pole	Double-pole	Triple-pole
100 to 800 amperes.....	85	160	245
1200 and 1600 amperes.....	140	270	400
2000 and 3000 amperes.....	190	370	550
4000 amperes.....	260	510	760
5000 amperes.....	325	640	950
6000 amperes.....	375	740	1100
8000 amperes.....	425	840	1250

Plain under  
breakers are the  
Rigid arm  
Time limit  
Plain undervolt

Shunt trip  
volts, \$26.00. 1  
30 amperes, \$5  
Reverse cu  
Approxima  
30 pounds; 3-p  
pounds; 3-pole



## CONDIT AIR CIRCUIT BREAKERS



### TYPE K-2

FOR DIRECT AND ALTERNATING CURRENT, OVERLOAD

Type K-2 circuit breakers are recommended for industrial applications, shipboard use and for isolated plants, for the control and protection of motors, generators, storage batteries, feeder circuits, etc.

They are furnished in standard ampere capacities from 3 to 300 amperes, for use on direct current where the pressure does not exceed 600 volts and for alternating current circuits where the pressure does not exceed 750 volts.

They are made in single, two, three and four poles, back-connected for switchboard use, and are furnished mounted on individual panels for front connection.

The K-2 air circuit breakers meet the temperature requirements of the American Institute of Electrical Engineers.

### 250 VOLTS D. C., 440 VOLTS A. C. WITHOUT BARRIERS

#### Back Connected

Caps amps.	PRICE, EACH		
	1-Pole 1 Coil	2-Pole 1 Coil Independent Arms	3-Pole 3 Coils Rigid Arms
3	\$33.00	\$46.00	\$76.00
5	33.00	46.00	76.00
10	33.00	46.00	76.00
20	33.00	46.00	76.00
30	33.00	46.00	76.00
45	33.00	46.00	76.00
60	33.00	46.00	76.00
80	33.00	46.00	76.00
100	33.00	46.00	76.00
125	44.00	68.00	116.00
150	44.00	68.00	116.00
200	44.00	68.00	116.00
300	48.00	76.00	126.00

#### Front Connected

Caps Amps.	PRICE, EACH		
	1-Pole 1 Coil	2-Pole 1 Coil Independent Arms	3-Pole 3 Coils Rigid Arms
3	\$33.00	\$46.00	\$76.00
5	33.00	46.00	76.00
10	33.00	46.00	76.00
20	33.00	46.00	76.00
30	33.00	46.00	76.00
45	33.00	46.00	76.00
60	33.00	46.00	76.00
80	33.00	46.00	76.00
100	33.00	46.00	76.00
125	44.00	68.00	116.00
150	44.00	68.00	116.00
200	44.00	68.00	116.00
300	48.00	76.00	126.00

### 600 VOLTS D. C., 750 VOLTS A. C. WITH BARRIERS

3	33.00	48.00	80.00
5	33.00	48.00	80.00
10	33.00	48.00	80.00
20	33.00	48.00	80.00
30	33.00	48.00	80.00
45	33.00	48.00	80.00
60	33.00	48.00	80.00
80	33.00	48.00	80.00
100	33.00	48.00	80.00
125	44.00	70.00	120.00
150	44.00	70.00	120.00
200	44.00	70.00	120.00
300	48.00	78.00	130.00

3	33.00	48.00	80.00
5	33.00	48.00	80.00
10	33.00	48.00	80.00
20	33.00	48.00	80.00
30	33.00	48.00	80.00
45	33.00	48.00	80.00
60	33.00	48.00	80.00
80	33.00	48.00	80.00
100	33.00	48.00	80.00
125	44.00	70.00	120.00
150	44.00	70.00	120.00
200	44.00	70.00	120.00
300	48.00	78.00	130.00

Plain underload (one and two-pole only), plain undervoltage, or plain shunt trip air circuit breakers are the same price as plain overload.

Rigid arm for two-pole breakers, \$2.00 list, additional.

Time limit operation is obtained by the use of Type C-6 relays used in combination with plain undervoltage or plain shunt trip air circuit breakers.

#### Attachments for Plain Overload Circuit Breakers

Shunt trip attachment, \$17.00. Undervoltage attachment, 250 volts or less, \$21.50; 440-600 volts, \$26.00. D. C. reverse current attachment, 3-100 amperes, \$53.00; 125-200 amperes, \$57.00; 300 amperes, \$59.00.

Reverse current attachments are not furnished with front connected circuit breakers.

Approximate shipping weight: Back Connected Breakers—single pole, 14 pounds; 2-pole, 28 pounds; 3-pole, 35 pounds. Front Connected Breakers—single pole, 18 pounds; 2-pole, 27 pounds; 3-pole, 45 pounds.



## CONDIT OIL CIRCUIT BREAKERS

### INTERRUPTING CAPACITIES AND OTHER CHARACTERISTICS

By interrupting (breaking or rupturing) capacity is meant the highest r.m.s. current at normal voltage which the device can interrupt under prescribed conditions at stated intervals specified number of times. The stated intervals and specified number of times at a given current and pressure (voltage) determine the duty imposed upon the breaker.

The breaker interrupting capacities in r.m.s. amperes published are based on an assumed duty i.e., that the breaker will interrupt its rated r.m.s. current two times at a two-minute interval and then be in condition to be closed and carry its rated normal current until it is practicable to inspect it and make necessary adjustments.

A given breaker required to interrupt the short circuit but once within a given time will have a higher rating than the rating based on the assumed duty of two times. A given breaker required to interrupt the short circuit current more than two times will have a lower rating than that based on two interruptions for the same interval of time.

The duty, including a statement of the prescribed conditions therefore, places a limit on the interrupting capacity of a breaker and any change in duty or prescribed conditions will necessarily affect the rated interrupting capacity. The arc Kv-a rating, based on the assumption on that the re-established bus pressure will be normal, can be obtained for three-phase circuits by multiplying the interrupting capacity of the breaker, in amperes, by the normal pressure in volts of the circuit to which it is connected, times the factor 1.73 and dividing by 1000.

The installation of apparatus on panel or switchboard, when the apparatus is subjected to a pressure in excess of 2500 volts, is not recommended. For such installations, the use of remote control apparatus, is recommended.

Also, even though series trip, panel-mounting breakers are insulated for 2500 volts, they are not recommended for services above 750 volts.

#### INTERRUPTING CAPACITIES—THREE-PHASE

##### Interrupting R. M. S. Amperes at Various Bus Pressures

Type E-3													Approx. Based Wt., Lbs. 3P. Act. Manually Operated
Volts	Amperes 60 Cycles	5-Seq. Carrying Cap.	750 Volts	2500 Volts	4500 Volts	6000 Volts	7500 Volts	12000 Volts	15000 Volts	25000 Volts	37000 Volts	44000 Volts	
2500	200	10000	10000	3300									155
4500	200	10000	10000	3300	1600								155
4500	300	15000	13000	3300	1600								155
Type E-4													
Volts	Amperes 60 Cycles	5-Seq. Carrying Cap.	750 Volts	2500 Volts	4500 Volts	6000 Volts	7500 Volts	12000 Volts	15000 Volts	25000 Volts	37000 Volts	44000 Volts	
7500	400	20000	20000	6100	3160								230
7500	600	30000	20000	6100	3160	2250	1700						230
4500	800	35000	20000	6100	3160	2250	1700						230
Type D-12													
Volts	Amperes 60 Cycles	5-Seq. Carrying Cap.	750 Volts	2500 Volts	4500 Volts	6000 Volts	7500 Volts	12000 Volts	15000 Volts	25000 Volts	37000 Volts	44000 Volts	
15000	300	15000	30000	9200	5100	3700	2900	1660	1250				460
15000	500	25000	30000	9200	5100	3700	2900	1660	1250				460
15000	800	35000	30000	9200	5100	3700	2900	1660	1250				530
7500	1000	35000	30000	9200	5100	3700	2900						590
4500	1200	35000	30000	9200	5100								610
Type D-13													
Volts	Amperes 60 Cycles	5-Seq. Carrying Cap.	750 Volts	2500 Volts	4500 Volts	6000 Volts	7500 Volts	12000 Volts	15000 Volts	25000 Volts	37000 Volts	44000 Volts	
15000	300	15000	30000	13300	7200	5300	4200	2400	1800				800
15000	500	25000	30000	13300	7200	5300	4200	2400	1800				800
15000	800	40000	30000	13300	7200	5300	4200	2400	1800				890
25000	300	15000	30000	13300	7200	5300	4200	2400	1800	1000			840
25000	500	25000	30000	13300	7200	5900	4200	2400	1800	1000			840
Type D-22													
Volts	Amperes 60 Cycles	5-Seq. Carrying Cap.	750 Volts	2500 Volts	4500 Volts	6000 Volts	7500 Volts	12000 Volts	15000 Volts	25000 Volts	37000 Volts	44000 Volts	
15000	600	30000		14700	8060	5900	4600	2650	2000				550
15000	800	40000		14700	8060	5900	4600	2650	2000				600
15000	1200	50000		14700	8060	5900	4600	2650	2000				700
Type D-13B													
Volts	Amperes 60 Cycles	5-Seq. Carrying Cap.	750 Volts	2500 Volts	4500 Volts	6000 Volts	7500 Volts	12000 Volts	15000 Volts	25000 Volts	37000 Volts	44000 Volts	
15000	400	20000		21300	11700	8550	6670	3840	2900				850
15000	600	20000		21300	11700	8550	6670	3840	2900				850
15000	800	40000		21300	11700	8550	6670	3840	2900				900
Type D-18													
Volts	Amperes 60 Cycles	5-Seq. Carrying Cap.	750 Volts	2500 Volts	4500 Volts	6000 Volts	7500 Volts	12000 Volts	15000 Volts	25000 Volts	37000 Volts	44000 Volts	
15000	600	30000		25000	13700	10000	7800	4500	3400				750
15000	800	40000		25000	13700	10000	7800	4500	3400				800
15000	1200	50000		25000	13700	10000	7800	4500	3400				900

INTERRU

Amperes  
60 Cycles

200	300	400
500	800	1200
1000	1500	2000
2000	3000	4000
3000	4000	5000

200	300	400
500	800	1200
1000	1500	2000
2000	3000	4000
3000	4000	5000

200	300	400
500	800	1200
1000	1500	2000
2000	3000	4000
3000	4000	5000

200	300	400
500	800	1200
1000	1500	2000
2000	3000	4000
3000	4000	5000

200	300	400
500	800	1200
1000	1500	2000
2000	3000	4000
3000	4000	5000

200	300	400
500	800	1200
1000	1500	2000
2000	3000	4000
3000	4000	5000

200	300	400
500	800	1200
1000	1500	2000
2000	3000	4000
3000	4000	5000

To find the  
between the pres  
Let A.—The  
B.—The  
C.—Inte  
D.—The  
E.—The

the table  
Then D =  $\frac{BC}{A}$   
must not be more



# CONDIT OIL CIRCUIT BREAKERS

## INTERRUPTING CAPACITIES AND OTHER CHARACTERISTICS—CONTINUED

### INTERRUPTING CAPACITIES—THREE-PHASE

Interrupting R.M.S. Amperes at Various Bus Pressures

#### Type D-18A

Volts	Amperes 60 Cycles	5 Sec. Carrying Cap.	750 Volts	2500 Volts	4500 Volts	6000 Volts	7500 Volts	12000 Volts	15000 Volts	25000 Volts	37000 Volts	44000 Volts	Wt., Lbs. Boxed 3P. Auto Manually Operated
15000	600	30000	26400	14500	10600	8300	4770	3600	2000	1300			1300
15000	800	40000	26400	14500	10600	8300	4770	3600	2000	1300			1300
15000	1200	50000	26400	14500	10600	8300	4770	3600	2000	1300			1300
25000	600	30000	26400	14500	10600	8300	4770	3600	2000	1300			1400
25000	800	40000	26400	14500	10600	8300	4770	3600	2000	1300			1350
													1350

#### Type D-17

15000	600	30000	35300	19300	14200	11000	6360	4800	2880	1300			1300
15000	800	40000	35300	19300	14200	11000	6360	4800	2880	1300			1300
15000	1200	50000	35300	19300	14200	11000	6360	4800	2880	1300			1300
25000	600	30000	35300	19300	14200	11000	6360	4800	2880	1300			1400
25000	800	40000	35300	19300	14200	11000	6360	4800	2880	1300			1350
													1350

#### Type D-15A

15000	300	15000	34000	19000	12000	6300	3600	2300	1800	4000			4000
15000	500	25000	34000	19000	12000	6300	3600	2300	1800	4000			4000
15000	800	40000	34000	19000	12000	6300	3600	2300	1800	4000			4000
4000	300	15000				6300	3600	2300	1800	4000			4000
4000	500	25000				6300	3600	2300	1800	4000			4000

#### Type D-16A

5000	300	15000	34000	19000	12000	6300	3600	2300	1800	4300			4300
5000	500	25000	34000	19000	12000	6300	3600	2300	1800	4300			4300
5000	800	40000	34000	19000	12000	6300	3600	2300	1800	4300			4300
4000	300	15000				6300	3600	2300	1800	4300			4300
4000	500	25000				6300	3600	2300	1800	4300			4300

#### Type F-10

5000	400	20000	30000	27600	15900	12000	6300	2100					2100
5000	600	30000	45000	40000	35000	27600	15900	12000	6300	2100			2100
5000	800	40000	60000	40000	35000	27600	15900	12000	6300	2100			2100
5000	400	20000	30000	27600	15900	12000	6300	2100					2100
5000	600	30000	45000	40000	35000	27600	15900	12000	6300	2100			2100
5000	800	40000	60000	40000	35000	27600	15900	12000	6300	2100			2100

#### Type Y-1

2500	1500	75000	29000	8000									1200
2500	2000	100000	29000	8000									1325
2500	2500	100000	29000	8000									1450

#### Type Y-2

2500	4500	150000	50000	15000									3500
------	------	--------	-------	-------	--	--	--	--	--	--	--	--	------

#### Type Y-3

2500	6000	150000	50000	15000									4000
------	------	--------	-------	-------	--	--	--	--	--	--	--	--	------

To find the interrupting amperes of a circuit breaker at any proposed pressure intermediate between the pressures at which it is rated in the table:

Let A.—The proposed pressure (voltage).

B.—The next higher pressure at which the circuit breaker is rated in the table.

C.—Interrupting amperes at pressure B.

D.—The interrupting amperes at pressure A.

E.—The interrupting amperes at the lowest pressure at which the breaker is rated in the table.

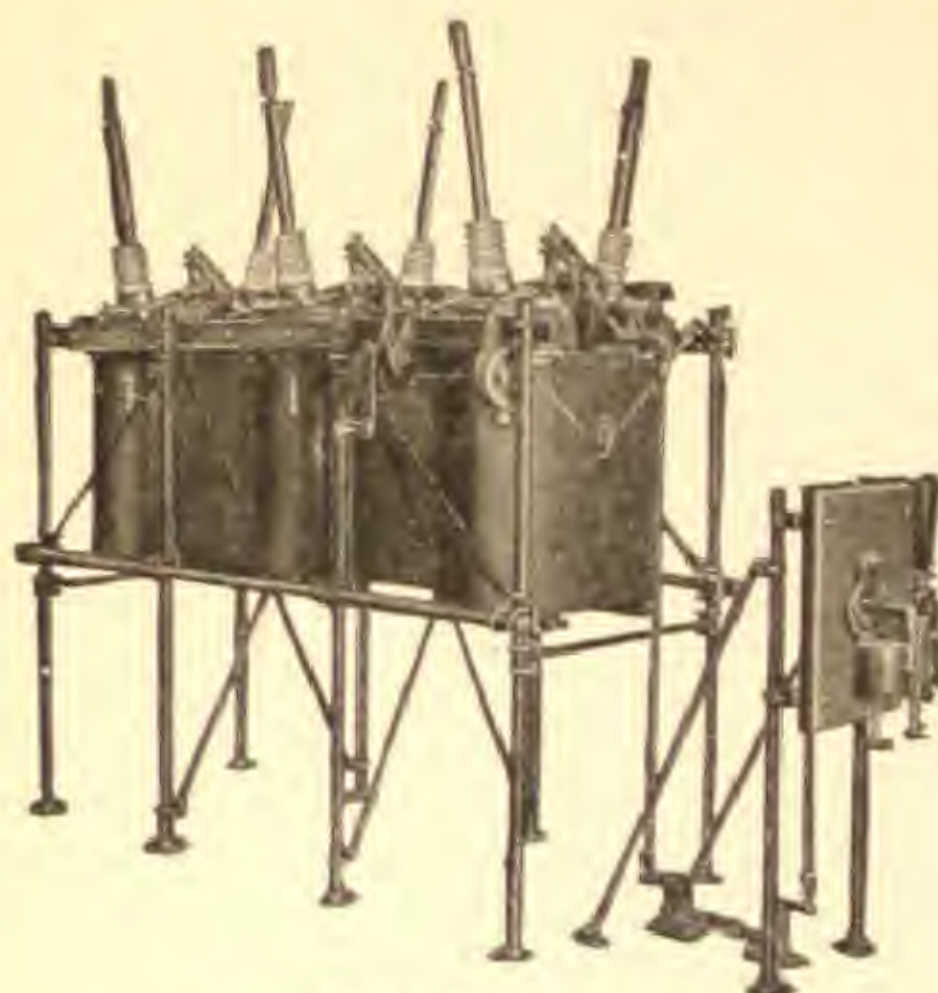
Then  $D = \frac{BC}{A}$  provided  $\frac{BC}{A}$  does not exceed E. If  $\frac{BC}{A}$  exceeds E, then the value taken for D

must not be more than E.

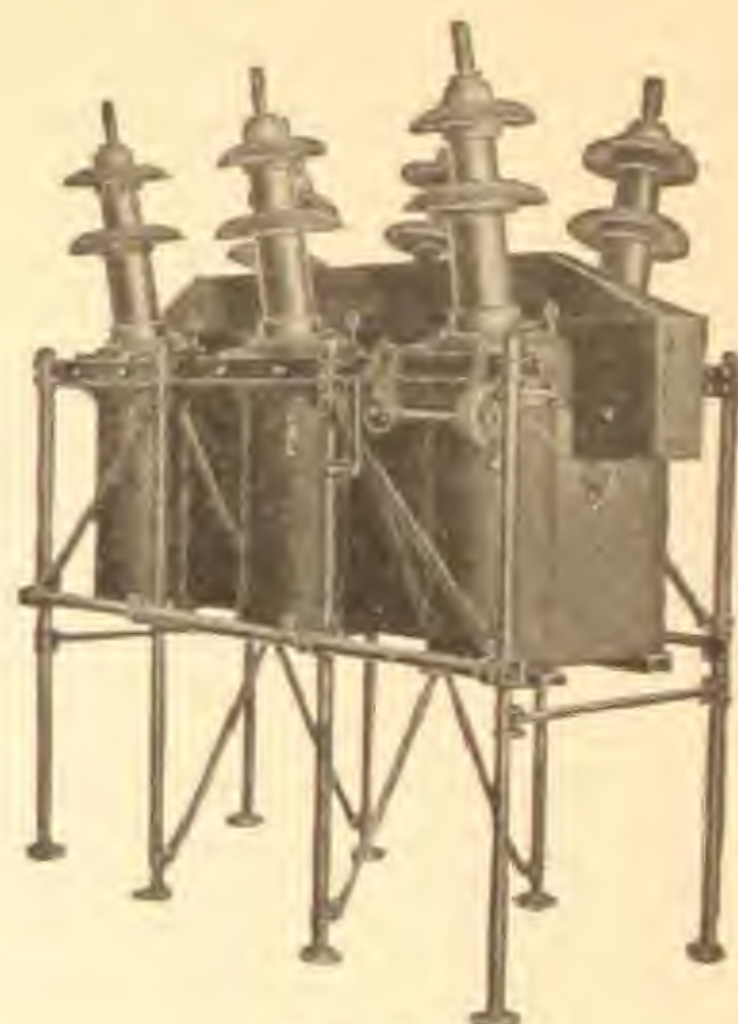


## CONDIT OIL SWITCHES AND CIRCUIT BREAKERS

TYPES D-15 AND D-16



Type D-15A



Type D-16A

Type D-15A oil switches and circuit breakers are furnished for indoor application and type D-16A for outdoor application, for the control and protection of transmission lines, transformer banks, where the normal operating voltage is 44000 volts or less.

They are available in two forms of mounting: floor mounting, when the tanks rest on the floor and pipe frame mounting. They consist essentially of three separate identical units, sufficiently spaced so that cell walls and barriers are usually unnecessary. Each unit consists of a strong, heavily ribbed cover over a large expansion chamber. This cover supports the mechanism and conducting parts. The oil tank is securely fastened to the expansion dome and is provided with an oil gauge and oil drain.

Tank lifting devices are also provided for pipe frame mounting breakers. They are furnished in the following standard capacities; up to 800 amperes, 44000 volts or less, for either manual or electrical remote control operation.

## TYPE D-17

Used for control and protection of generators, motors, transformer banks, feeder circuits, etc., in large distributing systems. They are especially adapted to central stations where space is an important factor, as they have a relatively high interrupting capacity but comparatively small over all dimensions.

The purpose of this type of construction is to absorb the mechanical shock incident to rupturing a heavy short circuit and to reduce to a minimum the hazard which usually follows the throwing of hot oil and gases emitted on heavy short circuits.

Double tanks as furnished, take care of this hazard. The inner tank contains the oil in which the switch contacts are immersed and is heavily re-inforced at the top by a deep web on the frame.

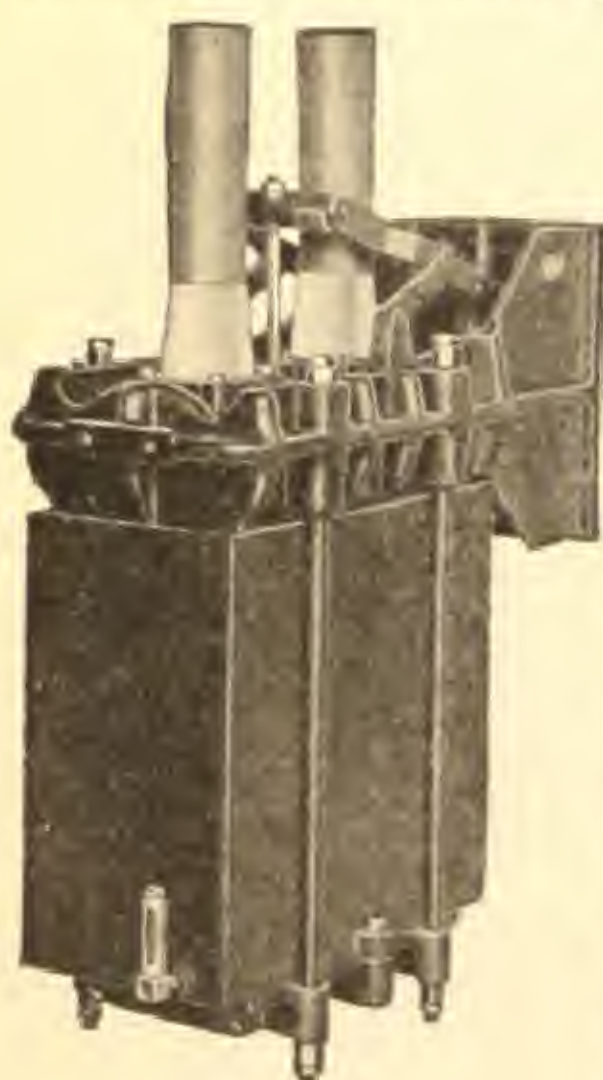
The outer tank in connection with the resilient features is so arranged as to chill the gases and to prevent the hot oil from being discharged from the breaker.

Owing to the small space requirements they are adapted for replacing present breakers inadequate to meet the interrupting requirements of a station where large breakers could not be installed without considerable change in cell construction.

They are built in single units for up to 1200-ampere capacity for 15000 volts and up to 800-ampere capacity for 25000 volts, single-throw and can be furnished for single or multipole operation. Operation may be either manual or electrical remote control.

## TYPE D-18A

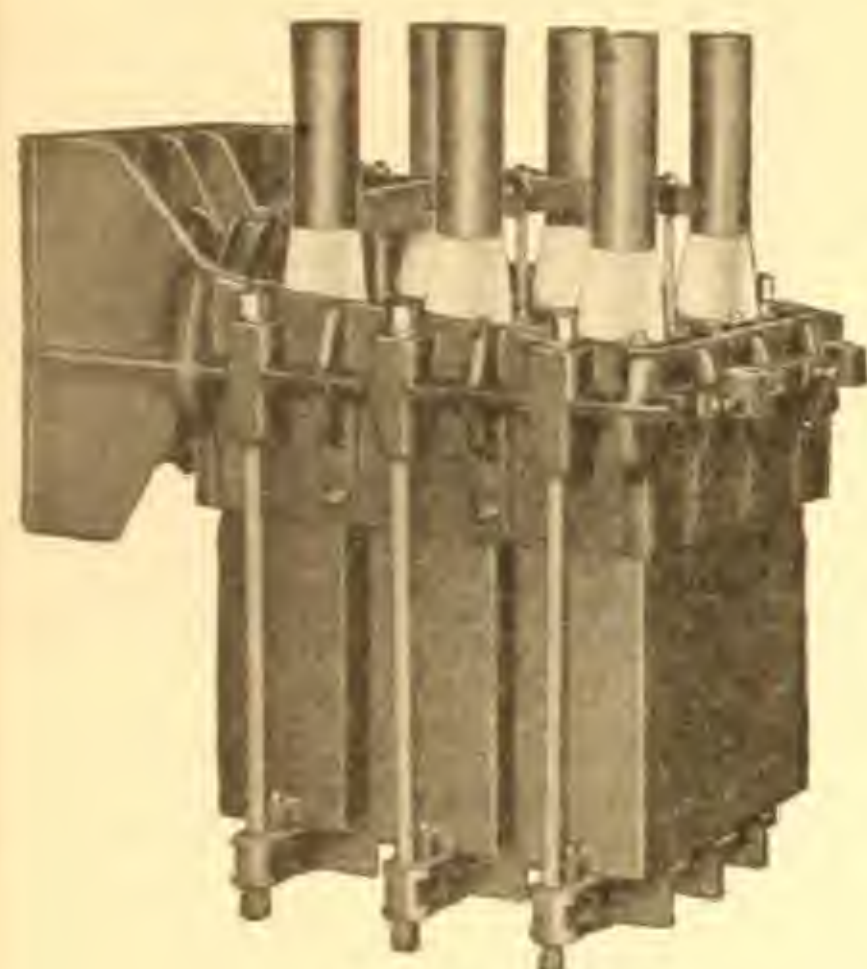
Type D-18A is similar to Type D-17, with the exception that a single tank is used and it is rigidly fastened to the frame; no resilient features are employed. This makes a very rugged construction and provides a breaker for use in the control and protection of generators, motors, transformer banks and feeder circuits which do not require a breaker with as high an interrupting capacity as the Type D-17.



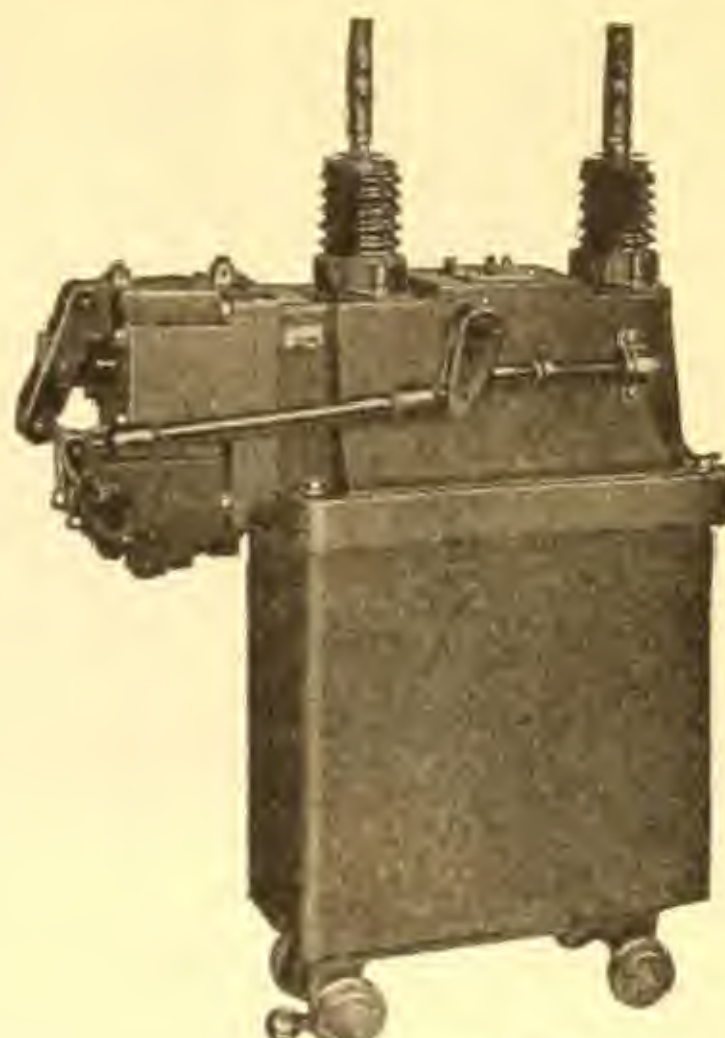
Type D-17



## CONDIT OIL SWITCHES AND CIRCUIT BREAKERS



Type D-18



Type F-10

### TYPE D-18

Type D-18 oil switches and circuit breakers are used in central stations and large industrial plants for the control and protection of electrical circuits requiring a high interrupting capacity oil circuit breaker in a limited space.

A rugged frame construction has been used throughout. It is of the tank-per-pole construction, in keeping with the best engineering practice. The arrangement of the mechanism insures high speed characteristics and maximum strength of all the members. The current-carrying parts are of ample design and are protected by well-glazed, high-grade, wet-process porcelains.

Type D-18 is furnished for manual and electrical remote control operation. They are furnished two, three and four poles, single-throw. Standard ampere capacities up to and including 1200 amperes at 15000 volts may be obtained.

### TYPE D-21

Type D-21 is similar to Type D-18, with the exception that a higher interrupting capacity is obtained through the use of resiliently hung tanks. In addition to the single tank shown on the Type D-18, a large tank, surrounding all poles, is also furnished. This provides an exceptionally strong tank construction. A deep web on the frame separates the inner from the outer tank.

This type of resilient construction absorbs the mechanical shocks incident to rupturing a heavy short circuit and reduces to a minimum the hazard which usually follows the throwing of hot oil and gases emitted on heavy short circuits.

Furnished for manual and electrical remote control operation, for two, three and four poles, single-throw. Standard ampere capacities up to 1200 amperes at 15000 volts may be obtained.

### TYPE F-10

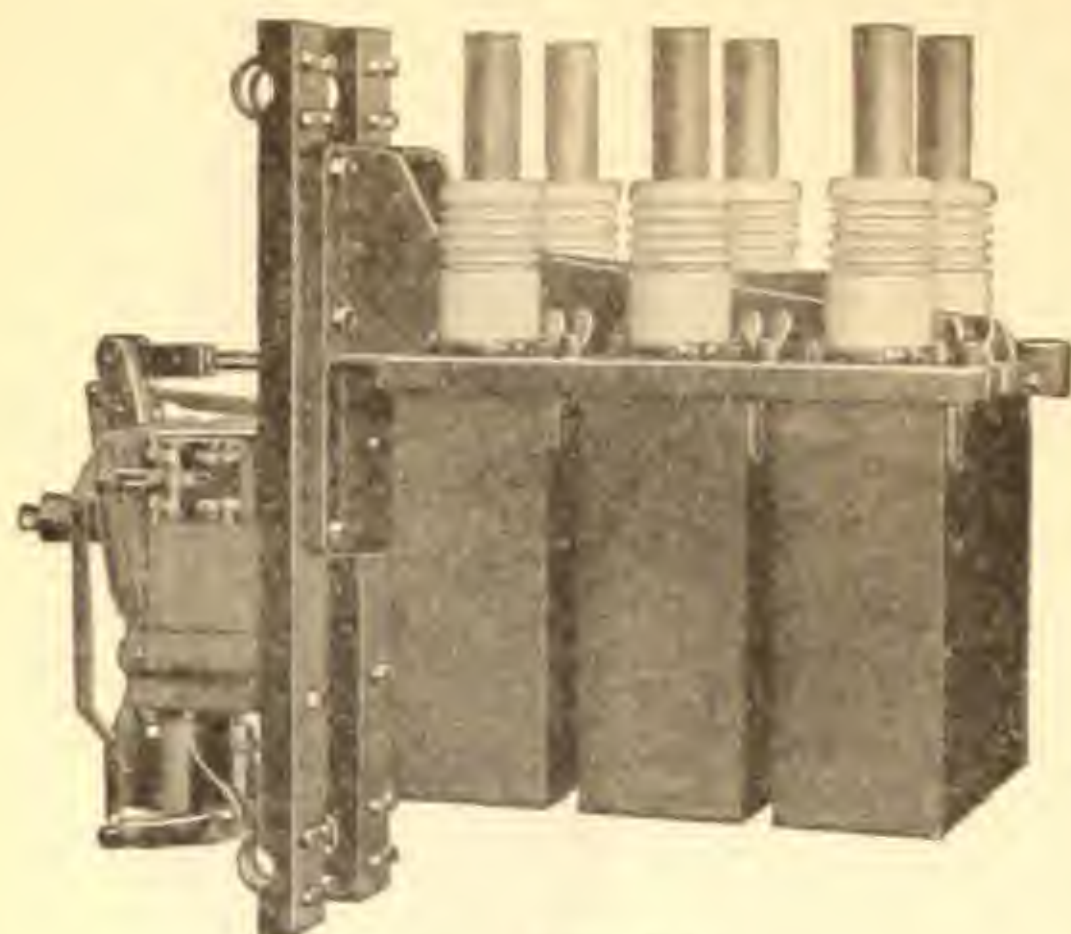
Designed for use by central stations and large industrial plants where a very high interrupting capacity breaker of the removable unit type is desired. Their small size has made them very favorable for replacing breakers inadequate to handle the existing interrupting capacity of the station, as they are very compact and will go into most any cell formerly occupied by an oil circuit breaker having an interrupting capacity between 1200 and 2000 amperes per phase at 15000 volts. As the interrupting capacity of Type F-10 is 12000 amperes per phase at 15000 volts, this allows central stations to increase the interrupting capacity of their equipment from five to eight times.

It is only necessary to install the tracks on the cell floor; as they are not supported from any cell structure, no overhead framework is necessary and in general no change is required in the masonry, busbars or connections to the breaker.

Some of the important characteristics of the Type F-10 are: High speed of operation; small space requirements; low cost of installation; large steel expansion chamber; oil tanks  $\frac{1}{4}$  inch thick; strong insulator brace which is in turn connected to the frame; and the current carrying members are so related as to withstand the thermal and electromagnetic stresses encountered in large distributing systems. Built in capacities from up to 1200 amperes for 15000 volts and up to 800 amperes for 25000 volts, single-throw and can be furnished for single or multipole operation. Operation may be either manual or electrical remote control.



## CONDIT OIL SWITCHES AND CIRCUIT BREAKERS



Type D-12

## TYPE D-12

Type D-12 Oil Switches and Circuit Breakers are used to meet the demands of controlling and protecting electrical circuits and apparatus where the pressure does not exceed 15000 volts.

Furnished manually-operated for panel frame mounting and remote control for both manual and electrical operation. Type D-12 oil switch is not made for panel mounting.

All are furnished single-throw. However, when double-throw service is desired this may be obtained by the use of two single-throw oil switches or circuit breakers equipped with suitable interlock.

Furnished in two, three and four poles, for all standard ampere capacities except 1200 amperes, which is not furnished in four poles.

MANUALLY-OPERATED, PANEL FRAME MOUNTING  
SINGLE THROW

Maximum Voltage: 800 Amperes or Less, 15000 Volts; 1200 Amperes, 4500 Volts

Current Transformer Trip, Full Automatic Form				Non-Automatic Form			
Two-Pole		Three-Pole		Four-Pole		Two-Pole	
Max. Trade	Price	Max. Trade	Price	Max. Trade	Price	Max. Trade	Price
Amps. No.	Each	Amps. No.	Each	Amps. No.	Each	Amps. No.	Each
300 205088	\$234.00	205092	\$294.00	205096	\$373.00	205100	\$221.00
500 205089	269.00	205093	318.00	205097	400.00	205101	256.00
800 205090	342.00	205094	435.00	205098	538.00	205102	329.00
1200 205091	490.00	205095	580.00	205099	720.00	205103	477.00
						205104	\$274.00
						205105	298.00
						205106	415.00
						205107	560.00
						205108	\$353.00
						205109	380.00
						205110	518.00
						205111	700.00

Above prices and trade numbers include faceplate, switch, oil, pipe fittings, and U-bolts for mounting on 1 1/4-inch horizontal pipe 5 3/8 inches back of panel.

MANUALLY-OPERATED OR REMOTE CONTROL  
FLAT SURFACE MOUNTING OR PIPE FRAME MOUNTING  
SINGLE-THROW

Maximum Voltage: 800 Amperes or Less, 15000 Volts; 1200 Amperes, 4500 Volts

Current Transformer Trip, Full Automatic Form				Non-Automatic Form			
Two-Pole		Three-Pole		Four-Pole		Two-Pole	
Max. Trade	Price	Max. Trade	Price	Max. Trade	Price	Max. Trade	Price
Amps. No.	Each	Amps. No.	Each	Amps. No.	Each	Amps. No.	Each
300 205112	\$254.00	205116	\$314.00	205120	\$393.00	205124	\$241.00
500 205113	289.00	205117	338.00	205121	420.00	205125	276.00
800 205114	362.00	205118	455.00	205122	558.00	205126	349.00
1200 205115	510.00	205119	600.00	205123	740.00	205127	497.00
						205128	\$294.00
						205129	318.00
						205130	435.00
						205131	580.00
						205132	\$373.00
						205133	400.00
						205134	538.00
						205135	720.00

Above prices include faceplate, switch, oil, wall bracket, two hanger and bell cranks with rod ends for 3/4-inch pipe; for pipe frame mounting, U-bolts for 1 1/4-inch pipe are included.

Two-pole circuit breakers are furnished with one trip coil; three and four-pole with two trip coils.

\*Relay tripping: For use with circuit opening relays, three-ampere trip coils are furnished for use with circuit closing relays, (specify voltage and frequency of trip circuit), one trip coil is furnished. Current transformers are not included in any of the above prices.

†1000 amperes only.

## TYPE D-22

This breaker is furnished in the same capacities as Type D-12, has a much heavier frame, and is of the tank-per-pole construction. Each tank is supported at four points on the frame. Accelerating springs are fastened to each brush rod, providing a very rapid break.

The rigid frame construction makes this breaker of extreme interest to central stations and industrial plants where a moderate capacity breaker is used.

Type D-22 may be obtained in two, three and four poles, single-throw for capacities up to 1200 amperes at 15000 volts, for either manual or electrical remote control operation.



# CONDIT OIL MOTOR STARTERS

## TYPE N-3

MANUAL OR PUSH-BUTTON CONTROL, THREE OR FOUR-POLE

MAXIMUM AMPERES, 100; MAXIMUM VOLTS, 750 A. C.

Type N-3 is adapted for the control and protection of induction motors and are recommended to control and protect three-phase motors up to and including the following sizes:

		Squirrel Cage			
Voltage		110	220	440	550
Horsepower		10	15	25	25
		Phase Wound			
Voltage		110	220	440	550
Horsepower		15	30	60	75

They may also be used for the control and protection of light and power circuits where the continuous current does not exceed 100 amperes at 750 volts, A. C. They are made single-throw and for mounting on wall.



Type N-3

ost or other flat surfaces and may be furnished for either manual or push button control.

## MANUALLY OPERATED

### Plain Automatic, Two Overload Coils, and Time-Limits

Trade No.	Ampere Capacity	Wt. Lbs. Boxed	THREE-POLE		FOUR-POLE	
			Trade No.	Price Each	Trade No.	Price Each
50	*100 or less	50	205146	\$65.00	205147	On application
Plain Automatic, Two Overload Coils, Time-Limits and Undervoltage						
50	*100 or less	55	205148	75.00	205149	On application
Plain Undervoltage						
50	100 or less	50	205150	54.00	205151	On application
Non-automatic						
50	100 or less	45	205152	42.00	205153	On application

\*Standard coil windings, 2, 3, 4, 6, 8, 10, 12, 16, 20, 25, 30, 40, 50, 60, 70, 80, 100 amperes. When ordering, specify standard coil winding desired.

## ATTACHMENTS

Trade No.	Description	Price Each
35154	Electrically operated mechanism for remote control operation	On application
35155	H-3 push button (start and stop)	\$5.00
35156	H-5 shipper-rod push button	8.00

## TYPE N-4

PUSH BUTTON CONTROL, THREE OR FOUR POLES

Capacity—30 amperes. Voltage—250 volts, A. C. with fuse clips; 600 volts, A. C. without fuse clips.

Type N-4 is designed for the protection of small motors not exceeding the following sizes and where remote control protection is desired.

Voltage	110	220	440	550
Horsepower	3½	5	5	5

They may also be used for other purposes where the maximum current to be carried is 30 amperes or less, 600 volts or less.

They are furnished as plain undervoltage starters up to 600 volts, A. C. without fuse clips and may also be obtained up to 250 volts equipped with fuse clips for taking standard N. E. C. fuses.

Where overload protection is desired above 250 volts, they may be used in connection with the Type C-11 overload relay which is equipped with adjustable long-time-limit oil dashpots.



Type N-4

For industrial plants where shipper rod operation is necessary a specially designed Type N-4 shipper rod control switch is furnished. This control switch is small, compact and of substantial mechanical strength.

## Three-pole

Trade No.	Maximum Voltage	Ampere Capacity	Wt. Lbs.	*Price Each
35157	250	30	15	\$26.00
35158	600	30	15	25.00

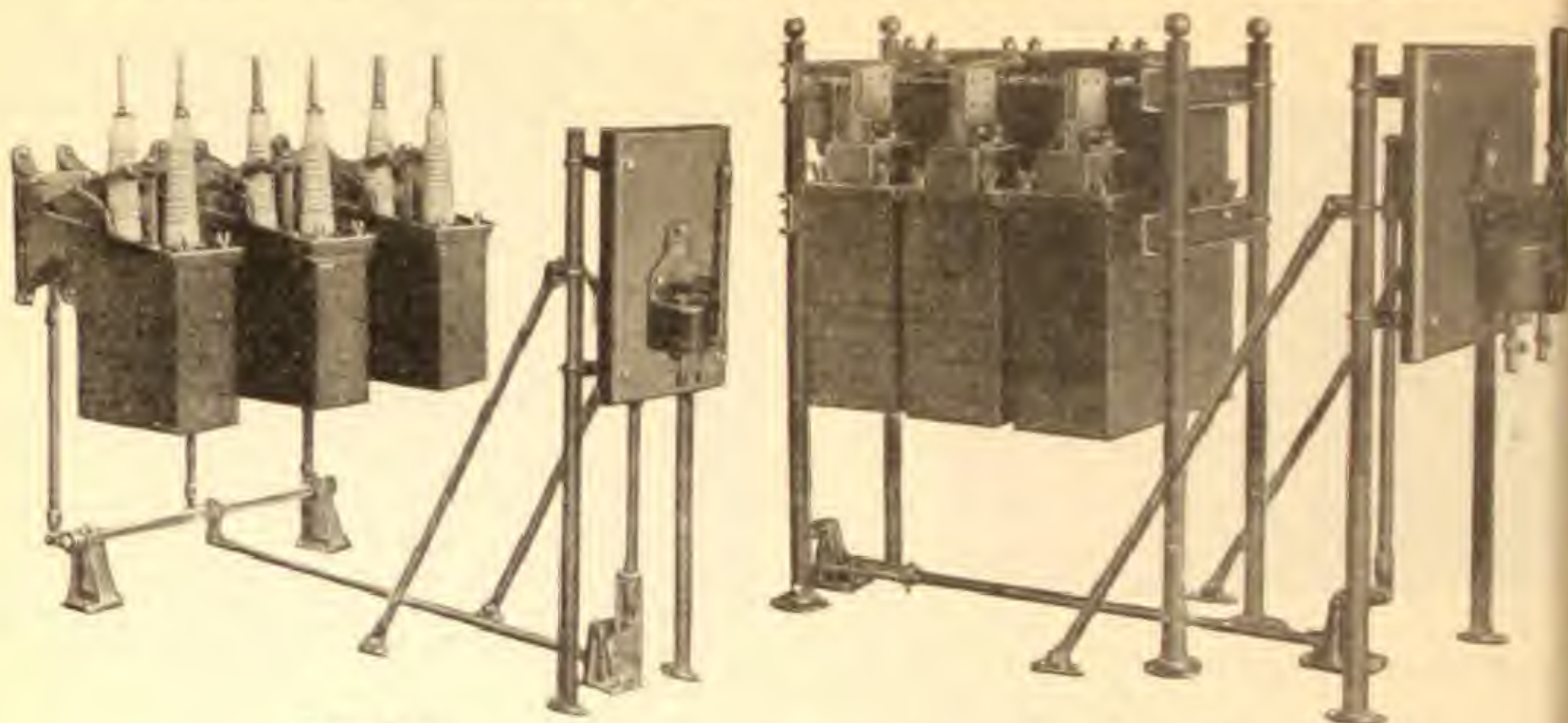
\*Price does not include master switch (Type H-2).

## ATTACHMENTS

Trade No.	Mfr. No.	Description	Price Each
35159	C-11	Relay, 30 amperes, 750 volts, A. C.	\$24.00
35160	H-2	Push button (start and stop)	5.00
35161	H-4	Shipper rod control switch	8.00



## CONDIT OIL SWITCHES AND CIRCUIT BREAKERS



Type D-13

Type Y-1

TYPE D-13

MANUALLY-OPERATED OR REMOTE CONTROL  
FLAT SURFACE MOUNTING OR PIPE FRAME MOUNTING  
THREE-POLE, SINGLE-THROW

Maximum Voltage, 15000

Designed for control and protection of generators, feeder circuits, transformer banks, etc. Used in central station and industrial plants where a moderate interrupting capacity breaker is desired and uninterrupted service is essential.

Non-automatic Form				*Full Automatic Form, Current Transformer Trip		
Max. Amps.	Trade No.	Approx. Ship. Wt. Lbs.	Price Each	Trade No.	Approx. Ship. Wt. Lbs.	Price Each
300	205172	790	\$454.00	205175	800	\$474.00
500	205173	815	486.00	205176	825	506.00
800	205174	890	760.00	205177	900	780.00

Maximum Voltage, 25000

300	205178	830	520.00	205180	840	540.00
500	205179	855	548.00	205181	865	568.00

Prices include faceplate, three switch units, oil, mounting bolts, or U-bolts, one hanger with bell crank and shaft with two floor stands, for operating switch units on 16-inch centers for 15000-volt type and 18-inch centers for 25000 volts.

TYPE Y-1

MANUALLY-OPERATED OR REMOTE CONTROL  
PIPE FRAME MOUNTING, SINGLE-THROW

Maximum Voltage, 2500

Type Y-1 Oil Switches and Circuit Breakers are designed for circuits of moderate voltage and relatively large ampere capacity, for control and protection of motors, generators, transformer banks, feeders and as service entrance switches.

MAXIMUM 25 Cycles	AMPERES 60 Cycles	*Current Transformer or Relay Trip				Full Automatic Form	
		TWO-POLE		THREE-POLE		FOUR-POLE	
		Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
1800	1500	205182	\$960.00	205185	\$1050.00	205188	\$1430.00
2400	2000	205183	1100.00	205186	1380.00	205189	1650.00
3000	2500	205184	1240.00	205187	1560.00	205190	1870.00
Non-automatic Form							
1800	1500	205191	930.00	205194	1000.00	205197	1380.00
2400	2000	205192	1070.00	205195	1330.00	205198	1600.00
3000	2500	205193	1210.00	205196	1510.00	205199	1820.00

Above prices and trade numbers include faceplate and bracket with bell crank with rod end for  $\frac{3}{4}$ -inch pipe, switch and pipe supports, oil two hangers and bell crank with rod ends for  $\frac{3}{4}$ -inch pipe.

Two-pole circuit breakers are furnished with one trip coil; three and four-pole with two trip coils.

\*Relay tripping: For use with circuit opening relays, three-ampere trip coils are furnished; for use with circuit closing relays, (specify voltage and frequency of trip circuit), one trip coil is furnished.

Current transformers are not included in above prices.



## CONDIT OIL STARTERS

### TYPE N-1 AUTOMATIC OIL STARTERS

For Induction Motors—Maximum Amperes, 30—Maximum Volts, 600



Type N-1 automatic oil starters are recommended for the control and protection of squirrel-cage induction motors. It is suitable for use with alternating current motors where the full-load current does not exceed 30 amperes at 600 volts or less, provided the momentary starting current does not exceed the following: 110 volts, 150 amperes; 220 volts, 125 amperes; 440 volts, 100 amperes; 550 volts, 80 amperes.

Type N-1 oil starters are of the double-throw type, so arranged that the overload trip coils are excluded during the starting period.

No. 1 Automatic Oil Starter, with Undervoltage Attachment

Max. Volts	Cap. Amps.	Calibration	Three-pole		Four-pole	
			Trade No.	Price* Each	Trade No.	Price* Each
600	2	2, 2.5, 3	161141	\$41.00	161152	\$54.00
600	3	3, 3.8, 4.5	161142	41.00	161153	54.00
600	4	4, 5, 6	161143	41.00	161154	54.00
600	6	6, 7.5, 9	161144	41.00	161155	54.00
600	8	8, 10, 12	161145	41.00	161156	54.00
600	10	10, 12.5, 15	161146	41.00	161157	54.00
600	12	12, 15, 18	161147	41.00	161158	54.00
600	16	16, 20, 24	161148	41.00	161159	54.00
600	20	20, 25, 30	161149	41.00	161160	54.00
600	25	25, 31, 37	161150	41.00	161161	54.00
600	30	30, 37, 45	161151	41.00	161162	54.00

\*Locks and bushings for open wiring extra.

Add \$16.00 List when Type V-5 undervoltage attachment is included.

Shipping weight of three-pole starter, 40 pounds; four-pole, 50 pounds.

### TYPE I FUSED OIL STARTERS

Maximum Amperes, 30—Maximum Volts, 600

The Type I oil starters are recommended for control and protection of squirrel-cage induction motors. It is suitable for use with alternating current motors where the full-load current does not exceed 30 amperes at 600 volts or less, provided the momentary starting current does not exceed the following: 110 volts, 150 amperes; 220 volts, 125 amperes; 440 volts, 100 amperes; 550 volts, 80 amperes.



Type I Fused Oil Starter with Undervoltage Attachment

The Type I oil starter is furnished in 2 forms: for use with 220-volt and 600-volt N. E. C. enclosed fuses. It is of the double-throw type, arranged so that the fuses are excluded during the starting period.

#### Without Undervoltage Attachment

Max. Volts	*Amp. Cap.	Three-pole		Four-pole	
		Trade No.	Price Each	Trade No.	Price Each
220	30	161186	\$23.00	161188	\$32.00
440	30	161187	30.00	161189	45.00
600	30	161187	30.00	161189	45.00

#### With Undervoltage Attachment

Max. Volts	*Amp. Cap.	Three-pole		Four-pole	
		Trade No.	Price Each	Trade No.	Price Each
220	30	161190	36.50	161192	45.50
440	30	161191	44.50	161193	59.50
600	30	161191	44.50	161193	59.50

\*Denotes amperes capacity of switch. N. E. C. fuses of the proper capacity should be selected to protect the cables and motor.

Price includes starter, oil and fuse clips. Fuses, lock and bushings for open wiring extra.

Price includes starter, type V-7 undervoltage attachment, oil and fuse clips. Fuses, lock and bushings for open wiring extra.



## CONDIT OIL SWITCHES

## TYPE N-2 NON-AUTOMATIC OIL SWITCHES

Type N-2 oil switches are furnished in various combinations to meet a wide variety of uses, particularly as entrance switches, oil disconnecting switches, and for the control and protection of small induction motors, lighting and power circuits, etc. They are suitable for the control and protection of alternating-current motors where the starting current does not exceed 100 amperes at 220 volts or less, or 60 amperes at 440 or 550 volts, also for use as service switches, oil disconnecting switches, and similar applications, where the current does not exceed 60 amperes at pressures of 600 volts or less.

All live parts and the mechanism of the type N-2 oil switch are enclosed in a substantial, dust-proof case comprising three sections: the upper section or cover, the middle section or body, and the lower section or oil tank. The middle section or body of the switch carries the mechanism and supports the stationary and movable contact members. The tank and cover are securely fastened to the middle section by a convenient easily operated, self-aligning, vibration-proof catch.

These switches are furnished non-automatic without fuse clips for installations where no protection or automatic disconnection is desired. They are widely used as oil disconnecting switches for isolating apparatus, such as compensators, etc., for inspection or repair. They are also furnished with fuse clips for use with apparatus whose electrical characteristics are such that overload and short-circuit protection may be obtained by the use of fuses in combination with a single-throw switch. They are extensively used for the control of lighting and power circuits as service entrance switches, also for the protection and control of alternating current induction motors having low starting current, such as those with resistance in the rotor circuit for starting.

Fuse clips to accommodate standard N. E. C. enclosed fuses are furnished as an integral part of the switch, except the 31 to 60 ampere, 600-volt rating, which are furnished in a dust-proof metal cabinet for separate mounting.

## Conduit Sizes for Wires—600 Volts

RUBBER-COVERED WIRE				RUBBER-COVERED WIRE			
Size B. & S.	Outside Diam.	Carrying Cap., Amps.	No. of Conductors in a Conduit	Size B. & S.	Outside Diam.	Carrying Cap., Amps.	No. of Conductors in a Conduit
			One				One
14	3/2	15	1 1/2	5	1 1/8	55	3 1/4
12	1 1/8	20	1 1/2	4	1 1/8	70	3 1/4
10	1 1/8	25	1 1/2	3	1 1/8	80	3 1/4
8	1 1/8	35	1 1/2	2	1 1/8	90	3 1/4
6	1 1/8	50	1 1/2	1	1 1/8	100	3 1/4
			Two				Two
			Three				Three
			Four				Four

## Switches without Fuse Clips

Two-pole				Three-pole				Four-pole			
Max. Volts	Max. Amps.	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	
600	60	199027	30	\$18.00	199028	30	\$19.00	199029	40	\$28.00	

## Switches with Fuse Clips

Two-pole				Three-pole				Four-pole			
Max. Volts	Max. Amps.	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	
250	30	199030	30	\$19.00	199034	30	\$20.00	199038	40	\$30.00	
250	60	199031	30	23.00	199035	30	24.00	199039	40	37.00	
600	30	199032	30	22.00	199036	30	23.00	199040	40	36.00	
600	60	199033	30	On Appl.	199037	30	On Appl.	199041	40	On Appl.	

Numbers include oil switch complete without fuses or attachments.  
Switch equipped with special porcelain bushing for open wiring.

## PLAIN UNDERVOLTAGE

## Without Fuse Clips

Two-pole				Three-pole				Four-pole			
Max. Volts	Max. Amps.	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	
250	60	201493	..	\$31.50	201495	..	\$32.50	201497	..	\$41.50	
600	60	201494	..	32.50	201496	..	33.50	201498	..	42.50	

## With Fuse Clips

Two-pole				Three-pole				Four-pole			
Max. Volts	Max. Amps.	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	
250	30	201499	..	32.50	201503	..	33.50	201507	..	43.40	
250	60	201500	..	36.50	201504	..	37.50	201508	..	50.50	
600	30	201501	..	36.50	201505	..	37.50	201509	..	50.50	
600	60	201502	..	**	201506	..	**	201510	..	**	

NOTE.—Shunt-trip attachment can be substituted for undervoltage at the same price.

\*Shipping weights include oil.

\*\*Prices quoted on application.

Types 1  
sections wh  
of joints are  
removable, a  
for mounting  
capacity, 300

No. of  
Poles

2  
3  
4

Max. Volts  
600  
500  
400

Standard  
sleeves on ap

Prices fo

The PK-  
may be use  
switching tra  
max.



TYPE

Line wire  
lengths of 2,  
application.



## CONDIT OIL SWITCHES



Type M-5



Type M-6

### TYPES M-5 AND M-6 MANHOLE OIL SWITCHES

Types M-5 and M-6 oil switches are designed for use on underground systems, or in other locations where there is a possibility of flooding. They are constructed with a minimum number of joints and these are made water-tight. The handle not only operates the switch, but being removable, also serves to insert and remove the plug which seals the switch. They are designed for mounting on flat surfaces, and a mounting bracket is furnished with each switch. Ampere capacity, 300 or less.

#### NON-AUTOMATIC—200 AMPERES OR LESS, 4500 VOLTS OR LESS

##### TYPE M-5

##### Single Conductor Cable

No. of Poles	Maximum Capacity	Single-throw		Double-throw	
		Trade No.	Price Each	Trade No.	Price Each
2	200	46797	\$127.00	46800	\$158.00
3	200	46798	150.00	46801	194.00
4	200	46799	200.00	.....	.....

##### TYPE M-6

##### Multiple Conductor Cable

##### Single-throw

No. of Poles	Maximum Amperes	Trade No.	Price Each
2	200	46802	\$162.00
3	200	46803	185.00

Standard cable sleeves of various diameters can be furnished; additional price of special sleeves on application.

Prices for 300 ampere types M-5 and M-6 oil switches, on application.

### TYPE PK-5 POLE LINE OIL SWITCHES

The PK-5 oil switch is intended primarily for use out of doors as a pole-line switch although it may be used on other kinds of service. As a pole-line switch it is used for sectionalizing lines switching transformers, etc. Type PK-5 is intended for mounting on a flat surface or cross arms.

#### NON-AUTOMATIC—300 AMPERES OR LESS, 4500 VOLTS OR LESS

##### Single-throw

##### 200 Amperes

##### 300 Amperes

No. of Poles	Trade No.	Price Each	Trade No.	Price Each
2	46804	\$78.00	46807	\$120.00
3	46805	97.00	46808	140.00
4	46806	125.00	46809	175.00

##### Double-throw

##### 200 Amperes

##### 300 Amperes

No. of Poles	Trade No.	Price Each	Trade No.	Price Each
2	190646	\$112.00	190648	\$180.00
3	190647	140.00	190649	210.00
4	190650	.....	190651	.....



Type PK-5

Line wires of No. 00 weatherproof braid, stranded cable, can be furnished in standard lengths of 2, 3, 4 or 6 feet, properly connected and insulated for connection. Prices on application.



## CONDIT OIL SWITCHES AND CIRCUIT BREAKERS



Type E-3 oil switches and circuit breakers have been designed primarily for controlling and protecting feeder circuits, transformer banks, generators, etc., where moderate interrupting capacity is required.

All of the automatic forms may be provided with under-voltage, shunt trip and time-limit attachments. Auxiliary switches of the circuit-opening and circuit-closing type may also be utilized in connection with either the non-automatic or automatic form.

All Type E-3, single-throw oil switches and circuit breakers have a maximum ampere capacity of 300 and may be used on potentials of 4500 volts or less, according to the method of mounting. Series trip oil circuit breakers, are furnished only for potentials of 2500 volts or less and arranged for panel mounting only. All panel frame mounted oil circuit breakers are arranged for transformer trip for use where the potential does not exceed 2500 volts. Double-throw switches and circuit breaker are arranged for panel mounting only.

## MANUALLY-OPERATED PANEL MOUNTING

MAXIMUM VOLTAGE, 2500  
Series Trip, Full Automatic Form

Max. Amps.	Two-pole		Single-throw Three-pole		Four-pole		Two-pole		Double-throw Three-pole		Four-pole	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
5	161001	\$110.00	161011	\$148.00	161021	\$166.00	161031	\$150.00	161041	\$210.00	161051	\$240.00
10	161002	110.00	161012	148.00	161022	166.00	161032	150.00	161042	210.00	161052	240.00
15	161003	110.00	161013	148.00	161023	166.00	161033	150.00	161043	210.00	161053	240.00
25	161004	110.00	161014	148.00	161024	166.00	161034	150.00	161044	210.00	161054	240.00
35	161005	110.00	161015	148.00	161025	166.00	161035	150.00	161045	210.00	161055	240.00
50	161006	110.00	161016	148.00	161026	166.00	161036	150.00	161046	210.00	161056	240.00
75	161007	110.00	161017	148.00	161027	166.00	161037	150.00	161047	210.00	161057	240.00
100	161008	110.00	161018	148.00	161028	166.00	161038	150.00	161048	210.00	161058	240.00
150	161009	110.00	161019	148.00	161029	166.00	161039	150.00	161049	210.00	161059	240.00
200	161010	110.00	161020	148.00	161030	166.00	161040	150.00	161050	210.00	161060	240.00
Current Transformer Trip*, Full Automatic Form												
5-200	161061	100.00	161063	134.00	161065	150.00	161067	146.00	161090	198.00	161071	232.00
201-300	161091	110.00	161092	144.00	161093	165.00	161094	194.00	161095	232.00	161096	275.00
Non-automatic Form												
5-200	161062	80.00	161064	100.00	161066	116.00	161090	122.00	161070	148.00	161072	180.00
201-300	161097	98.00	161098	124.00	161099	145.00	161100	182.00	182713	212.00	182714	255.00

Above prices and trade numbers include faceplate, switch, oil and mounting bolts.

## MANUALLY-OPERATED PANEL FRAME MOUNTING

Max. Amps.	Two-pole		Single-throw Three-pole		Four-pole		Two-pole		Non-automatic Form Three-pole		Four-pole	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
5-200	161073	\$110.00	161074	\$144.00	161075	\$160.00	161076	\$90.00	161077	\$110.00	161078	\$126.00
201-300	182715	120.00	182716	154.00	182717	176.00	182718	108.00	182719	134.00	182720	156.00

Above prices and trade numbers include faceplate, switch, oil and mounting bolts.

## MANUALLY-OPERATED REMOTE CONTROL

SINGLE-THROW, MAXIMUM VOLTAGE, 4500

Flat Surface Mounting or Pipe Frame Mounting

Max. Amps.	Two-pole		Single-throw Three-pole		Four-pole		Two-pole		Non-automatic Form Three-pole		Four-pole	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
5-200	161079	\$132.00	161080	\$166.00	161081	\$182.00	161082	\$112.00	161083	\$132.00	161084	\$148.00
201-300	182721	148.00	182722	182.00	182723	202.00	182724	136.00	182725	162.00	182726	182.00

Above prices and trade numbers include faceplate, switch, oil, mounting bolts, wall bracket, two hangers and bell cranks with rod ends for  $\frac{3}{4}$ -inch pipe; for pipe frame mounting, U-bolts for  $\frac{1}{4}$ -inch pipe are also included.

Two-pole circuit breakers are furnished with one trip coil; three and four-pole, with two trip coils.

\*Relay tripping: For use with circuit opening relays, three ampere trip coils are furnished, for use with circuit closing relays (specify voltage and frequency of trip circuit), one trip coil is furnished.

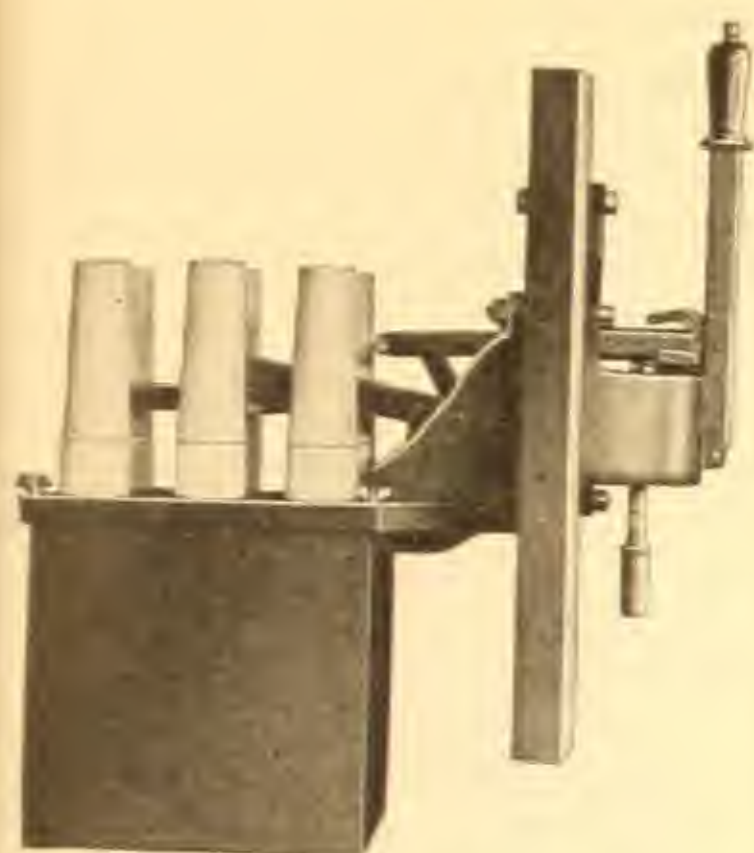
Current transformers are not included in any of the above prices.

For attachments and accessories see listing on a preceding page.



# CONDIT OIL SWITCHES AND CIRCUIT BREAKERS

## TYPE E-4



Type E-4 oil switches and circuit breakers are constructed for the purpose of controlling and protecting feeder circuits, transformer banks, generators, etc., on systems where the normal voltage is 7500 volts or less and where the normal current does not exceed 800 amperes.

The rugged construction of Type E-4 oil switches and circuit breakers makes them particularly desirable for use in industrial service for controlling and protecting large synchronous and induction motors.

The interrupting (rupturing) capacity of Type E-4 oil switch and circuit breaker is greater than the Type E-3, and is sufficient to give satisfactory protection on moderate sized central stations or large industrial plants.

Type E-4 oil switches and circuit breakers are made in two, three and four-poles, automatic and non-automatic, for manual and electrical operation. All of the automatic forms may be provided with undervoltage, shunt trip, and time limit attachments. Auxiliary switches of the circuit-opening and circuit closing type may also be utilized in

connection with either the non-automatic or automatic form.

All Type E-4 switches and circuit breakers are single throw and may be used on potentials of 7500 volts or less, according to the method of mounting. Overload Type E-4 oil circuit breakers are built for current transformer tripping only.

## MANUALLY-OPERATED PANEL MOUNTING—SINGLE THROW

Maximum Voltage; 600 Amperes or Less, 7500 Volts; 800 Amperes, 4500 Volts

Current Transformer Trip, Full Automatic Form						Non-automatic Form					
Two-pole		Three-pole		Four-pole		Two-pole		Three-pole		Four-pole	
Max. Amps.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
400	161085	\$126.00	161087	\$160.00	161089	161101	\$113.00	161103	\$140.00	161105	\$167.00
600	161086	145.00	161088	187.00	161090	161102	137.00	161104	167.00	161106	211.00
800	161131	189.00	161132	257.00	161133	161134	176.00	161135	237.00	161136	305.00

Above prices and trade numbers include faceplate, oil and mounting bolts.

## MANUALLY-OPERATED PANEL FRAME MOUNTING—SINGLE THROW

Maximum Voltage; 600 Amperes or Less, 7500 Volts; 800 Amperes, 4500 Volts

Current Transformer Trip, Full Automatic Form						Non-automatic Form					
Two-pole		Three-pole		Four-pole		Two-pole		Three-pole		Four-pole	
Max. Amps.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
400	161107	\$136.00	161109	\$170.00	161111	161113	\$123.00	161115	\$150.00	161117	\$177.00
600	161108	155.00	161110	197.00	161112	161114	142.00	161116	177.00	161118	221.00
800	161137	199.00	161138	267.00	161139	161140	186.00	182737	246.00	182738	315.00

Above prices and trade numbers include faceplate, switch, oil, mounting bolts, bracket, pipe fittings, U-bolts for mounting on 1 1/4-inch horizontal pipe 5 3/8 inches back of panel.

## MANUALLY-OPERATED REMOTE CONTROL—SINGLE THROW

Flat Surface Mounting or Pipe Frame Mounting

Maximum Voltage; 600 Amperes or Less, 7500 Volts; 800 Amperes, 4500 Volts

Current Transformer Trip, Full Automatic Form						Non-automatic Form					
Two-pole		Three-pole		Four-pole		Two-pole		Three-pole		Four-pole	
Max. Amps.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
400	161119	\$159.00	161121	\$193.00	161123	161125	\$146.00	161127	\$173.00	161129	\$200.00
600	161120	178.00	161122	220.00	161124	161126	165.00	161128	200.00	161130	245.00
800	182739	222.00	182740	290.00	182741	182742	209.00	182743	270.00	182744	338.00

Above prices and trade numbers include faceplate, switch, oil, mounting bolts, wall bracket, two hangers and bell cranks with rod ends for 3/4-inch pipe; for pipe frame mounting, U-bolts for 1 1/4-inch pipe are also included.

Two-pole circuit breakers are furnished with one trip coil; three and four-pole with two-trip coils.

\*Relay tripping: For use with circuit opening relays, three-ampere trip coils are furnished; for use with circuit closing relays, (specify voltage and frequency of trip circuit), one trip coil is furnished.

Current transformers are not included in any of the above prices.

For attachments and accessories see listing on a preceding page.



## CONDIT TYPE C-3 RELAYS

## SERIES OVERLOAD RELAYS FOR USE WITH A.C. MOTOR STARTING DEVICES

Maximum Volts, 2500—Maximum Amperes, 200



Type C-3 relay is designed for use with alternating current motor-starting devices and is provided with inverse time-limit attachments which prevent the relay from disconnecting the motor from the service on momentary fluctuations of load, but permits operation of the relay on short circuits or sustained overloads.

It is generally used in conjunction with the under-voltage trip associated with auto-transformers or compensators, but it may be used in various other combinations where the current does not exceed 200 amperes at a pressure of 2500 volts or less. When used in connection with motors requiring more than 200 amperes, or on pressures in excess of 2500 volts, Type C-3 overload relays are furnished wound for 5 amperes for use with current transformers.

A simple and efficient form of contact is provided for opening the circuit of the under-voltage tripping attachment and may be used in conjunction with the coils of under-voltage attachments on pressures not exceeding 750 volts. On other pressures, voltage transformers must be provided for use in connection with under-voltage coils which are wound for 110 volts.

The Type C-3 overload relay is made for back connection only, and is mounted on a slate base. It is finished in black japan and presents a neat appearance. All parts are completely enclosed in a sectional, metal dustproof case which serves as a protective covering for the tripping contacts, series coils, calibration tubes and retarding elements.

The upper and lower sections may be quickly removed, thus allowing easy access to the tripping contacts, calibration tubes and retarding elements for inspection or adjustment. The central section, which serves as the magnetic circuit, completely encloses the series coils and prevents accidental contact with live parts and also affords ample protection from mechanical injury.

The standard ampere capacities for series coils of C-3 relays are shown below and are calibrated at 80, 100, 125, 150 and 200 per cent of normal rating. Secondary relays for use with current transformers are wound for 5 amperes and calibrated 4, 5, 6 $\frac{1}{4}$ , 7 $\frac{1}{2}$  and 10 amperes.

Each coil of the Type C-3 relay is provided with a B-1 inverse time-limit attachment of the oil type which affords a time lag of approximately 10 seconds at 125 per cent full load, 6 seconds at 150 per cent full load, and 3 seconds at 200 per cent full load, with the relay set at normal full load current. Motors requiring an exceptionally high starting current, or where starting characteristics are special, the C-3 relay may be provided with type T-1 time-limit attachments which may be adjusted to take care of the most severe starting conditions.

Sufficient Condit reoil No. 10 for two dashpots is furnished with each relay. No other oil should be used.

It is recommended that the case of the relays be grounded, especially when used on high-voltage circuits, irrespective of whether the relay is of the series form, or used with current transformers.

Standard Windings Amperes	Approx. Wt., Lbs. Boxed	Trade No.	2500 Volts		750 Volts or Less	
				Price* Each		Price* Each
5	40	161851		\$41.00	161866	\$38.00
7.5	40	161852		41.00	161867	38.00
10	40	161853		41.00	161868	38.00
15	40	161854		41.00	161869	38.00
25	40	161855		41.00	161870	38.00
30	40	161856		41.00	161871	38.00
35	40	161857		41.00	161872	38.00
40	40	161858		41.00	161873	38.00
50	40	161859		41.00	161874	38.00
60	40	161860		41.00	161875	38.00
75	40	161861		41.00	161876	38.00
100	40	161862		41.00	161877	38.00
125	40	161863		41.00	161878	38.00
150	40	161864		41.00	161879	38.00
200	40	161865		41.00	161880	38.00

\*When Type T-1 time limit attachments are required add \$10.00 to list price.

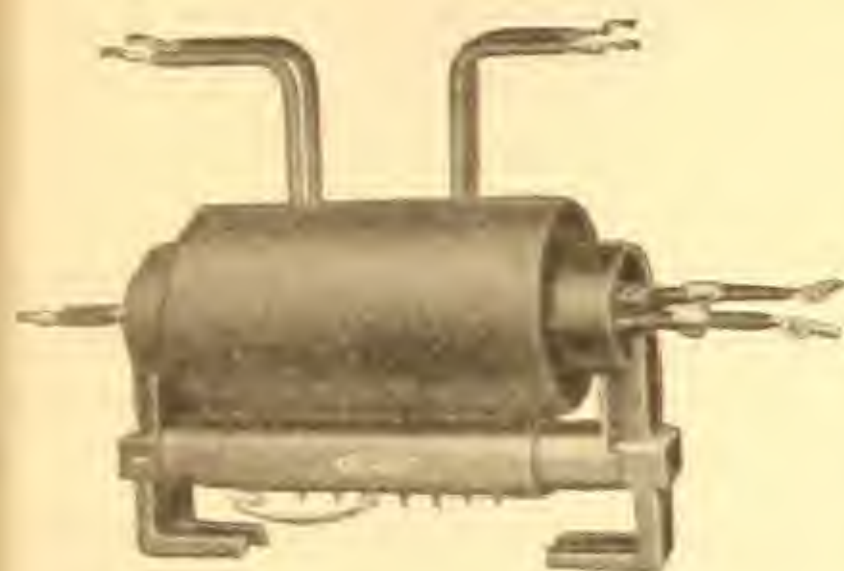
Relays are shipped with circuit-opening contacts unless circuit-closing contacts are specified



## CONDIT CURRENT TRANSFORMERS

### TYPE SC

Maximum Volts, 15000; Amperes, 5 to 800; Cycles, 25 to 60; Double Ratio



Type SC current transformer has been designed primarily for use with instruments where a high degree of accuracy is required. Its construction is of such a nature that it may safely be used on large distribution systems where short-circuit currents of enormous values are encountered. It may be used in any combination of instruments, trip coils, or relays where the secondary load does not exceed 40-volt amperes with 5 amperes flowing in the secondary circuit at 60 cycles and 20 volt-amperes at 25 cycles.

Trade No.	Primary Amperes	Marked Ratio	Approx. Boxed Wt., Lbs.	Price Each	Trade No.	Primary Amperes	Marked Ratio	Approx. Boxed Wt., Lbs.	Price Each
206422	5 and 10	1:2 to 1	45	\$75.00	206430	100 and 200	20:40 to 1	45	\$84.00
206423	10 and 20	2:4 to 1	45	75.00	206431	125 and 250	25:50 to 1	45	88.00
206424	15 and 30	3:6 to 1	45	78.00	206432	150 and 300	30:60 to 1	45	88.00
206425	20 and 40	4:8 to 1	45	78.00	206433	200 and 400	40:80 to 1	45	92.00
206426	25 and 50	5:10 to 1	45	78.00	206434	250 and 500	50:100 to 1	45	94.00
206427	30 and 60	6:12 to 1	45	78.00	206435	300 and 600	60:120 to 1	60	96.00
206428	50 and 100	10:20 to 1	45	84.00	206436	400 and 800	80:160 to 1	60	98.00
206429	75 and 150	15:30 to 1	45	84.00					

### TYPE SI

Maximum Volts, 15000; Amperes, 5 to 800; Cycles, 25 to 60; Double Ratio

Type SI current transformer has been constructed for operating circuit breaker trip coils, relays and indicating instruments. It is particularly well adapted for use as a differential current transformer and may also be utilized in protective systems where the current transformers are called upon to carry full rated current in the primary without current in the secondary.

Trade No.	Primary Amperes	Marked Ratio	Approx. Boxed Wt., Lbs.	Price Each	Trade No.	Primary Amperes	Marked Ratio	Approx. Boxed Wt., Lbs.	Price Each
206437	5 and 10	1:2 to 1	45	\$55.00	206445	100 and 200	20:40 to 1	45	\$57.00
206438	10 and 20	2:4 to 1	45	55.00	206446	125 and 250	25:50 to 1	45	63.00
206439	15 and 30	3:6 to 1	45	56.00	206447	150 and 300	30:60 to 1	45	63.00
206440	20 and 40	4:8 to 1	45	56.00	206448	200 and 400	40:80 to 1	45	63.00
206441	25 and 50	5:10 to 1	45	56.00	206449	250 and 500	50:100 to 1	45	63.00
206442	30 and 60	6:12 to 1	45	56.00	206450	300 and 600	60:120 to 1	60	70.00
206443	50 and 100	10:20 to 1	45	57.00	206451	400 and 800	80:120 to 1	60	70.00
206444	75 and 150	15:30 to 1	45	57.00					

\*Type SI double wound current transformers, for use as differential transformers, will be furnished with primary windings insulated from each other to withstand a test of 1500 r.m.s. volts. An additional charge of \$5.00 net each will be made.



## CONDIT CURRENT TRANSFORMERS



Type B-4



Type B-5

Condit Transformers Types B-4 and B-5 have been designed primarily for operating circuit breaker trip coils and relays. They may also be used to operate indicating instruments in conjunction with trip coils, and will afford the usual accuracy required of indicating instruments for switchboard service.

These transformers may be used where the secondary burden does not exceed 40 volt-amperes and 5 amperes flowing in the secondary at 60 cycles, and 20 volt-amperes at 25 cycles. Will withstand heavy short-circuits without destruction.

Provisions are made to facilitate ease of mounting in any position usually met with in switchboard practice. This is accomplished by a mounting plate or foot so arranged that the transformer may be erected on either flat surface or pipe frame. The mounting plate is attached to the transformer case in such a manner that it may be readily turned at right angles to meet the various requirements of installation, and slots are provided in the foot so that it may be fastened to either  $\frac{3}{4}$  or  $1\frac{1}{4}$ -inch pipe.

Transformers are of the dry type, well insulated, and designed to withstand the high-potential tests recommended by the American Institute of Electrical Engineers. Will carry full rated secondary load continuously with a temperature rise not exceeding 30 degrees Centigrade in any of the parts.

The secondary and frame of current transformers should be thoroughly grounded. The secondary should be short-circuited before an instrument or trip coil is removed, and should never be left open.

## TYPE B-4

Type B-4 is of the through type construction, arranged to slip over round studs or cables.

Maximum Volts. 7500—Amperes. 300 to 600—Cycles. 25 to 60

Trade No.	Primary Amperes	Marked Ratio	Approx. Wt., Lbs. Boxed	Price Each
53693	300	60 to 1	15	\$29.00
53694	400	80 to 1	15	29.00
53695	500	100 to 1	10	31.00
53696	600	120 to 1	10	31.00

## TYPE B-5

Type B-5 is of the "through" type construction, arranged to slip over bus bars or multiple cables.

Maximum Volts. 4500—Amperes. 600 to 1200—Cycles. 25 to 60

Trade No.	Primary Amperes	Marked Ratio	Approx. Wt., Lbs. Boxed	Price Each
53697	600	120 to 1	17	\$30.00
53698	800	160 to 1	17	32.70
53699	1000	200 to 1	17	35.40
53700	1200	240 to 1	17	38.10



## CONDIT CURRENT TRANSFORMERS



Type B-6

### TYPE B-6

The Type B-6 Current Transformer is used extensively for the tripping of circuit breakers, the operation of relays, and the operation of instruments and meters. Its design is such that it will readily withstand the electromagnetic and thermal effects resulting from sustained short-circuit currents encountered in modern distribution systems.

The Type B-6 has a capacity of approximately 50 volt-amperes, and will afford the usual switchboard accuracy in any combination of instruments and meters when the secondary burden does not exceed 25 volt-amperes with 5 amperes flowing in the secondary, at 60 cycles.

This transformer is of the dry type and well insulated. The windings and insulation are thoroughly impregnated by vacuum and pressure process which prevents absorption of moisture and adds materially to the mechanical strength.

Will carry its full rated secondary burden at 5 amperes continuously with a temperature rise not exceeding 30 degrees Centigrade in any of its parts.

Maximum Volts, 7500—Single Ratio—Cycles, 25 to 60

Trade No.	Primary Amperes	Marked Ratio	Approx. Wt., Lbs. Boxed	Price Each
55175	5	1 to 1	20	\$33.00
55176	7.5	1½ to 1	20	33.00
55177	10	2 to 1	20	33.00
55178	15	3 to 1	20	33.00
55179	25	5 to 1	20	33.00
55180	40	8 to 1	20	33.00
55181	60	12 to 1	20	33.00
55182	100	20 to 1	20	33.00
55183	150	30 to 1	20	33.00
55184	200	40 to 1	20	33.00

### Connection on Diagrams for Tripping of Circuit Breakers

Fig. 1 — Single phase, one trip coil, one current transformer.

Fig. 2 — Single phase, one circuit-opening relay, one trip coil, one current transformer.

Fig. 3 — Single phase, one circuit-closing relay, one trip coil, one current transformer.

Fig. 4 — Two phase, non-interconnected, two trip coils, two current transformers.

Fig. 5 — Two phase, non-interconnected, two circuit-opening relays, two trip coils, two current transformers.

Fig. 6 — Two phase, non-interconnected, two circuit-closing relays, one trip coil, two current transformers.

Fig. 7 — Two phase, interconnected, three circuit-closing relays, one trip coil, three current transformers.

Fig. 8 — Three phase, two trip coils, two current transformers.

Fig. 9 — Three phase, two circuit-closing relays, two trip coils, two current transformers.

Fig. 10 — Three phase, two circuit-closing relays, one trip coil, two current transformers.

Fig. 11 — Three phase, grounded neutral, three or four wire, two trip coils, three current transformers.

Fig. 12 — Three phase, grounded neutral, three or four wire, two circuit-opening relays, two trip coils, three current transformers.

Fig. 13 — Three phase, grounded neutral, three or four wire, two circuit-closing relays, one trip coil, three current transformers.

Fig. 14 — Three phase, ungrounded neutral, two three-contact circuit-closing relays, two trip coils, two current transformers for tripping two circuit breakers simultaneously.

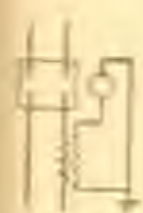


Fig. 1

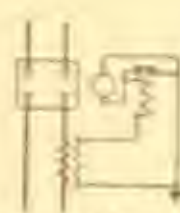


Fig. 2

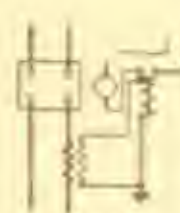


Fig. 3

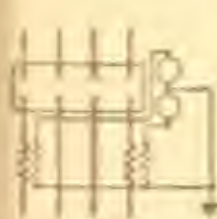


Fig. 4

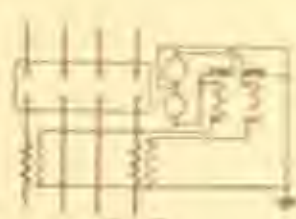


Fig. 5

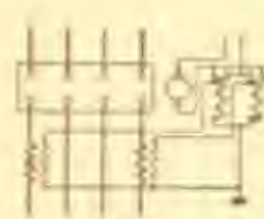


Fig. 6

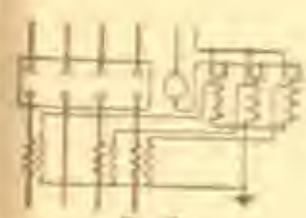


Fig. 7

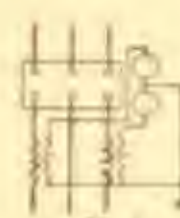


Fig. 8

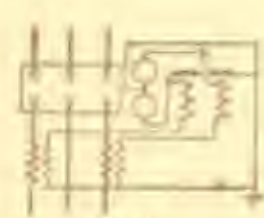


Fig. 9

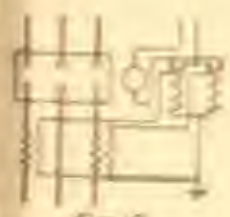


Fig. 10

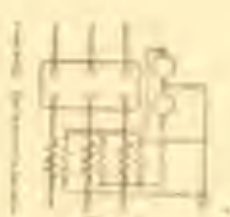


Fig. 11



Fig. 12

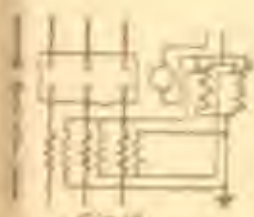


Fig. 13

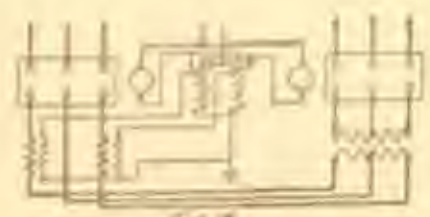


Fig. 14



## WESTINGHOUSE LIGHTNING ARRESTERS

## FOR D. C. RAILWAY, MINE AND CENTRAL STATION SERVICE

Lightning arresters used in direct current railway, mine and lightning service have four methods of application: Mounted directly on railway cars for the direct protection of the apparatus, especially the motor armatures; mounted on poles along the line for its protection and for the indirect protection of the car apparatus by preventing the accumulation of any considerable amount of static on the line; mounted in the power house or sub-station for the protection of generating apparatus, rotary converters, or switchboards; and mounted at the entrance of service wires to buildings for direct current lighting or power.

For CAR MOUNTING it is necessary for best protection to have one or two arresters (according to the method of wiring) on each car, either on the roof or under the car. Connections should be made to the trolley circuit ahead of any other connections; and from the ground wire of the arrester to the nearest good grounding point on the car frame or truck. Both the trolley and the ground leads should be as straight as possible. If the arrester is mounted underneath the car the lead from the trolley to the arrester should not be run in the same corner as the return lead from arrester to top of car. If choke coils are included, they should be placed in the main trolley circuit between the arrester tap and the apparatus. For more detailed instructions, Westinghouse leaflet "Static Protection of Railway Cars" will be furnished on request.

For LINE MOUNTING about five arresters to the mile are recommended for railway service and for such part of mine service line as runs above ground.

For STATION PROTECTION one arrester should be connected to each wire of each feeder. In sub-stations some form of good alternating current arrester should be connected on the incoming alternating current feeders.

For LIGHTING AND POWER INSTALLATIONS one arrester should be connected to each wire of the circuit.

## TYPE MP LIGHTNING ARRESTERS

For 100 to 750 Volts

For car and line mounting on railway and mine service, and for use on direct current lighting circuits where conditions are not extra severe. Consists of a large number of multiple-series gaps between carborundum particles. Has no resistance in the circuit and therefore has a large discharge capacity and a comparatively low-voltage breakdown point. The many arcing paths in the carborundum block prevent the generator current following a discharge at normal voltage, but freely pass the static discharge at high voltage. There are no moving parts to get out of order due to rust or improper alignment. The inspection required is negligible, and due to the simplicity of construction the total cost, including cost of maintenance, is extremely low to the user. Contained in waterproof iron boxes.



No. 154297



No. 47417

Trade No.	Mfgs No.	Mounting	Voltage	APPROX. WT., Lbs.	Price Each
				Net	Boxed
087710	230110	On wall or pole	100-400	7½	9
087711	269573	On cars	100-400	7½	9
084784	154297	On wall or pole	400-750	7½	9
084783	47417	On cars, open wiring	400-750	7½	9
087712	247950	Carborundum block for use in any of above			
		arresters			1.80

Type E  
Spark  
Rods

For service also used for...  
Generally considered...  
The...  
passage of...  
high resist...  
bridged by an...  
An addition...  
lightly less disc...  
the same arreste...  
In applicati...  
the armatures...  
about 2000 W...  
them if they wi...  
the Type K-...  
static as soon a...  
For station...  
full-size papers...  
contained in wa...

Trade No.	Mfgs No.
15117	256
15119	256
15432	188

For maximum...  
the largest in de...  
used in the high...  
weight and deta...  
performed by sh...  
the electrical se...  
discharge capacity...  
Trade No. Mfgs No.

81400	2015
81410	1208
81411	2015
81412	2015
81413	2015
81414	1650
81415	2015
81416	1254
81417	2291
81418	2291
81420	1415

\*Weights do not include weight of 9 pounds



# WESTINGHOUSE LIGHTNING ARRESTERS

FOR D. C. RAILWAY, MINE AND CENTRAL STATION SERVICE



Type K-3 without  
Spark Gap or  
Resistance



Type K-3 with Spark Gap  
and Resistance Showing Accessibility  
of Spark Gap Chamber for Inspection



Type A Electrolytic Arrestor

## TYPE K-3 LIGHTNING ARRESTERS

100 to 1500 Volts

For service similar to that of the Type MP where conditions are very severe. The arrester is also used for protection of small to medium size generating stations and sub-stations and is only exceeded in protection by the Westinghouse large-capacity Type A electrolytic arrester. Normally consists of a spark gap and a condenser in series, with the condenser shunted by a resistor. The condenser will freely pass the very high frequencies of a static wave but will prevent passage of direct current. The resistor serves to keep the condenser discharged, and is of such high resistance that only a negligible direct current can flow through it when the spark gap is bridged by an arc or is short-circuited, thus no dynamic current can flow to disrupt the arrester.

An additional arrester is listed without gap or resistor and while the arrester in this form has slightly less discharge capacity, it still has much greater capacity than any other arrester, except the same arrester with spark gap and resistor.

In application on cars, it is recommended that the gap be left open where the insulation of the armatures is sufficient to withstand higher voltages than the discharge voltage of the arrester, about 2000. Where armatures are used with weakened insulation, it is often desirable to operate them if they will stand an insulation test slightly higher than line voltage and to protect them by the Type K-3 arrester with spark gap closed, as in this way the arrester will begin to discharge static as soon as it forms a voltage above the line voltage.

For station protection it is preferable to operate the arrester with gap open. By the use of tell-tale papers in the gap, the user can always tell whether or not discharges are taking place. Contained in waterproof iron boxes.

Trade No.	Mfrs. No.	Voltage	Description	Capacity Microfarads	Approx. Wt. Net	Approx. Wt. Lbs. Boxed	Price Each
25117	256369	100 to 1500	Without gap and resistance	1.0	23	42	\$45.00
25119	256372	100 to 1500	With gap and resistance	1.0	26	45	61.00
37432	186818	100 to 1500	Resistance rod				1.50

## TYPE A ELECTROLYTIC LIGHTNING ARRESTERS

For Voltages up to 2450

For maximum protection of generating and sub-stations. Is the most rugged in form and the largest in discharge capacity of any on the market, as it is built of the same parts as those used in the high-voltage alternating-current arresters. Is provided with a gap so as to prevent leakage and deterioration of the aluminum plates and the electrolyte. Daily charging is easily performed by short-circuiting the gap. This arrester represents the best protection known to the electrical science to date, and may be applied in stations without limit to their kilovolt-ampere capacity. For indoor mounting only. Price includes arrester complete.

Trade No.	Mfrs. No.	Voltage	No. of Trays	Electrolyte No. 141539	Gals. of Oil	*Approx. Net	Approx. Wt. Lbs. Boxed	Price Each
81409	201555	0-350	2	1 Bottle	9	42	72	\$82.00
81410	120830	350-700	3	2 Bottles	9	42	72	87.00
81411	201556	700-1150	4	3 Bottles	9	42	72	92.00
81412	201557	1150-1400	5	4 Bottles	13	42	83	97.00
81413	201558	1400-1750	6	5 Bottles	13	42	83	101.00
81414	165047	1750-2100	7	6 Bottles	13	42	83	105.00
81415	201559	2100-2450	8	7 Bottles	13	42	83	110.00

### Accessories

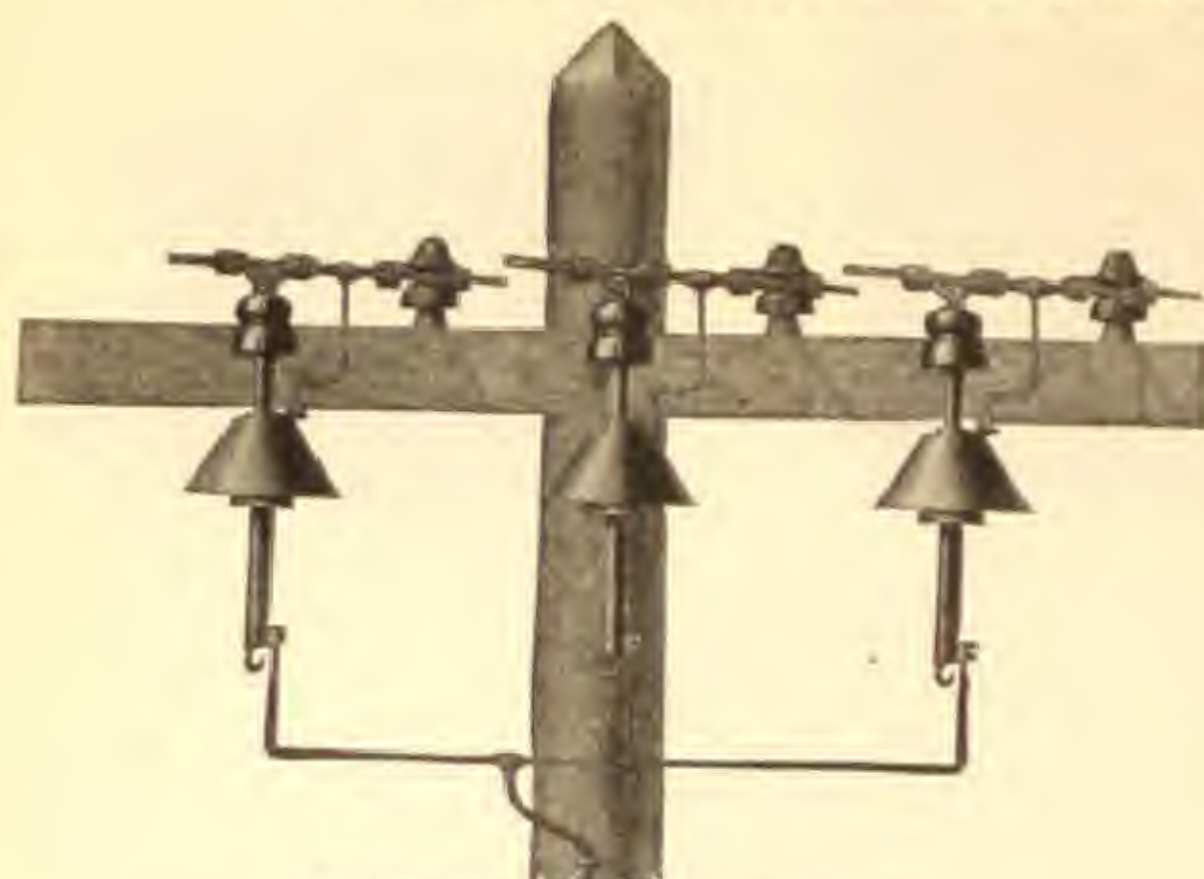
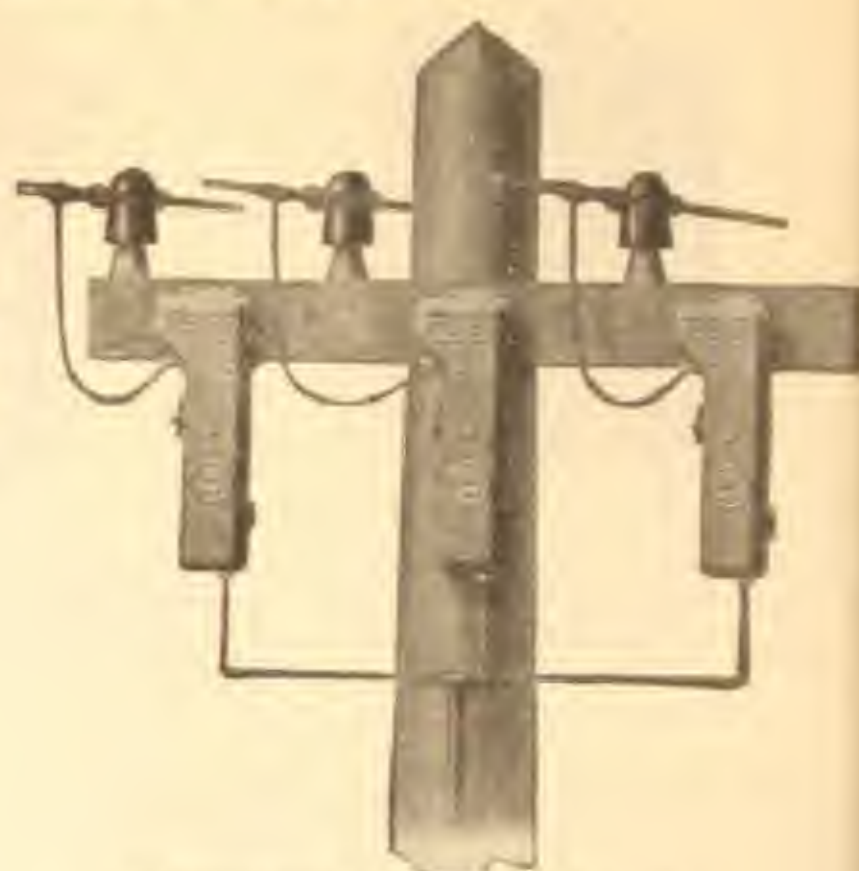
81416	125412	Cup for filling trays						2.00
81417	229147	Aluminum tray (treated) without connection lug						1.90
25115	229148	Aluminum tray (treated) with connection lug						2.30
81418	141539	Type D electrolyte, 8-ounce bottle						.55
81420		Type D electrolyte, per gallon, without container						1.10

\*Weights do not include oil or electrolyte, net weight of oil 7½ pounds per gallon; shipping weight 9 pounds per gallon.



## WESTINGHOUSE LIGHTNING ARRESTERS

SPARK GAP TYPE, FOR A. C. LIGHT AND POWER CIRCUITS

Application of Type W Arresters  
to Three-phase LineApplication of Type CR Arresters  
to Three-phase Line

Alternating current lightning arresters are used for protection of distribution transformers, protection of transformers, motors, etc., at the receiving end of the line, and for the protection of generating apparatus, rotary converters, and main transformers in generating or sub-stations. The great variety in voltage, the amount of power involved, and the degree of protection required renders necessary a variety of forms in order to provide arresters of reasonable price and sufficient protection for some applications, and arresters giving a higher degree of protection for other applications. Several varieties of Westinghouse arresters are supplied for this service, representing the most complete line for this purpose available.

For distribution transformer protection, low priced arresters are desired and for this purpose the multipole gap non-arcing metal arrester is the best available. Type CR, single-pole, for 1000 to 5000-volt service and Type W, single pole-for 5000 to 13200-volt service. One single-pole arrester should be connected to each wire, as close as possible to each transformer. Where conditions are extra severe the outdoor Type LE limited capacity arrester should be applied for the protection of transformers up to 7500 volts and 1000 kilovoltamperes or the outdoor Type LE unlimited capacity arrester for voltages above 7500 and for all voltages having a circuit capacity of more than 1000 kilovoltamperes.

For protection of transformers or motors at the receiving end, it is often sufficient to make use of the Type CR referred to above, but especially where motors are direct-connected to the line it is sometimes preferable to supply a greater degree of protection, such as offered by the Type LE limited capacity arrester. For low-voltage application up to 750 volts the Type MP arrester should be used, one of these being provided for 100 to 400 volts and another one for voltages 400 to 750. Type MP arrester should also be applied on low-voltage alternating current distributing lines, about five to the mile where conditions warrant extra protection.

For protection of station apparatus, the Type LE limited capacity arrester, within its limits of kilovolt-ampere capacity and the Type LE unlimited capacity for higher capacities should be used in stations of small to medium capacity and in all cases where the daily attention required by an electrolytic arrester cannot be given. These arresters are the best protection known to science, with the exception of the electrolytic arrester which exceeds all others in degree of protection to apparatus.

For protection of all apparatus in the station, including switchboard, a set of arresters should be installed on each incoming line, but where only the generators are to be protected one set of arresters can be installed between each generator and the busbar.

With the exception of the Type MP, all spark gap arresters consist of series of multiple gaps between non-arcing metal electrodes, and in various combinations with resistances, as indicated in the description of each arrester. The principal feature of these arresters is the non-arcing multiple gap, which prevents the generator current following the static discharge for longer than one-half cycle, thus allowing the arrester to be used without series resistance, or with less series resistance than is necessary with other types of arresters. As the amount of series resistance determines discharge capacity of the arrester, it is obvious that the arrester with least resistance offers the best protection. The metal in the spark gap electrodes is an alloy that has a rectifying effect similar to that of mercury, and the fumes of which tend to prevent the passage of current in any but one direction. Within a known limit of current, therefore, these gaps will disrupt the generator current at the zero point of the first half cycle. The resistance used is only sufficient to limit the current to the predetermined value at any certain voltage. The voltage breakdown point of these arresters is determined by the total spark-gap distance, and is as low as it is possible to set it without allowing the arrester to discharge continuously on arcing grounds.



Type M



Type CR



Type CR	W	Volts	Capacity
180401	M	240	
180442		270	
180447		240	
180448		210	
180443		270	
180444		280	
180445		250	



# WESTINGHOUSE LIGHTNING ARRESTERS

MULTI-GAP FOR A. C. LIGHT AND POWER CIRCUITS



Type MP

## TYPE MP LIGHTNING ARRESTERS

Single-pole, for 100 to 750 volts, A. C. or D. C.

Recommended especially for low-voltage alternating-current lighting and power distributing lines and for the protection of alternating-current motor installations. Consists of a large number of multiple-series gaps between carborundum particles. Has no resistance in the circuit, and therefore has a large discharge capacity and a comparatively low-voltage break-down point (about 1800). There are no moving parts to get out of order due to rust or improper alignment.



Type CR Iron Box

Trade No.	Mfrs. No.	Mounting	Voltage	APPROX. Wt., LBS.		Price Each
				Net	Boxed	
180437	230110	On wall or pole	100 to 400	7½	9	\$11.25
180438	269573	On ears	100 to 400	7½	9	11.25
180439	154297	On wall or pole	400 to 750	7½	9	11.25
180440	47417	On ears	400 to 750	7½	9	11.25
180446	247950	Carborundum block for use in any of above arresters.				1.80

## TYPE CR LIGHTNING ARRESTERS

For 1000 to 5000 Volts, Any Frequency

Type CR arresters are for use on any alternating-current circuit of 2500 or 5000 volts maximum potential or under, including feeders, series-lighting circuits, etc. The 2500-volt maximum potential arrester can be used on a three-phase, four-wire, 4000-volt, grounded neutral circuit when connected the same as for a 2500-volt, three-phase, three-wire circuit.

The 2500-volt maximum potential arrester consists of four knurled non-arcing metal cylinders mounted on a porcelain base, with a series resistor which is held in an enclosed fuse clip, the whole mounted in an iron box or a wooden box.

The 5000-volt maximum potential arrester is similar to the 2500-volt arresters except that seven knurled non-arcing metal cylinders and a larger resistor rod are used. This arrester is supplied mounted in a wooden box only.

In all these arresters the unit is mounted on the inside front cover so that it is automatically disconnected from the circuit when the box is opened. This makes inspection and repairs entirely safe for the line-man and is an especially desirable feature in an arrester of this type which ordinarily is used in considerable numbers on a line and receives routine inspections.

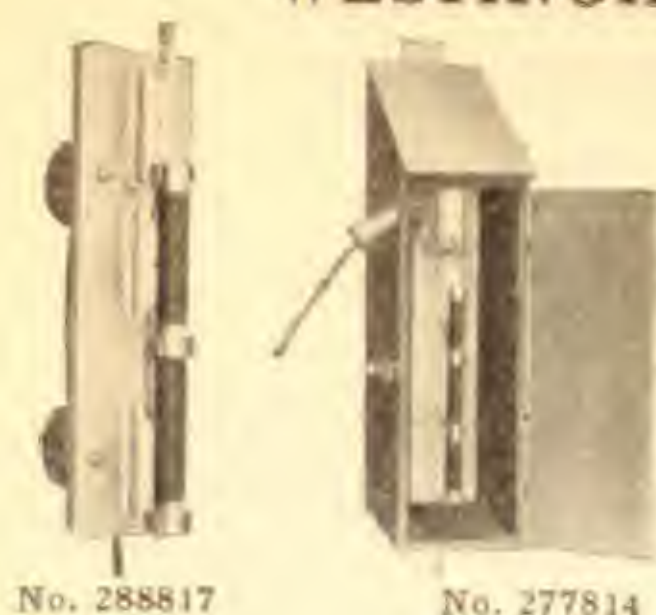


Type CR Wood Box

Trade No.	Mfrs. No.	Description	APPROX. Wt., LBS.		Price Each
			Net	Boxed	
34801	240916	Type CR arrester complete, iron box, 2500 volts.	10	13	\$10.70
30442	272985	Type CR arrester complete, wood box, 2500 volts.	10	13	10.70
30447	242017	Gap unit, including resistor rod, 2500 volts.	2	3	6.00
30148	210233	Type CR resistor rod.	1/8	1/4	1.90
30443	275976	Type CR arrester, wood box, 5000 volts.	13	16	18.75
30444	280837	Gap unit, not including resistor rod, 5000 volts.	3	4	3.25
30445	257788	Resistor rod, 5000 volts.	1/4	3/8	3.25



## WESTINGHOUSE LIGHTNING ARRESTERS

TYPE LE (LOW EQUIVALENT) LIGHTNING  
ARRESTERS

No. 288817

No. 277814



No. 46185



No. 263045

Type LE (Low Equivalent) Arresters are for use on alternating current circuits of any frequency, up to 39000 volts of limited and unlimited capacity. These arresters afford a degree of protection second only to the electrolytic arresters. They are especially applicable for protection of small or moderate-sized stations and for use where maximum protection is required but where the daily attention necessitated by electrolytic arresters cannot be provided.

The outdoor form provides, in the higher voltages, a more moderately priced high grade arrester than the electrolytic. In this form, it is especially applicable for protection of outdoor transformer sub-stations.

It is recommended that a disconnecting switch be supplied with each arrester, in order to easily disconnect it from the line when desired.

These arresters consist of series and shunt-gaps between non-arcing metal cylinders mounted in porcelain containers; also shunt or series and shunt rod resistors mounted in enclosed fuse clips. Both the gap units and the resistors are mounted on a marble base. In the outdoor form this marble base is encased in a weatherproof wooden box of good construction.

The limited capacity arresters are for use on circuits not exceeding 2000 to 7500 volts but limited in capacity to 2000 kilovolt-amperes in terms of normal generator capacity, except that where used on circuits connected to the secondary of transformers of not over 1000 kilovolt-amperes capacity the generator capacity may be disregarded. The unlimited capacity arresters are for use on any circuit, irrespective of the capacity of the equipment.

The safety spark gap arresters, consisting of two non-arcing metal cylinders with a gap between, mounted on a porcelain base and in a weatherproof iron box are limited in capacity when used as a straight arrester to 200 kilovolt-amperes capacity on 0-300-volt circuits; but are not limited as to capacity when used as spark gaps on transformer secondaries up to 1100 volts maximum.

The limited capacity arresters can be used as safety spark gaps within their capacity and voltage limitations.

## LIMITED CAPACITY ARRESTERS

## Indoor Type

Trade No.	Mfrs. No.	Voltage	Approx. Wt., Lbs. Boxed	Price Each
74423	262071	2000-3500	25	\$20.00
74421	277817	3501-5000	27	28.25
74422	262063	5001-7500	30	42.00
050701	46185	*0-300		4.15

## Outdoor Type

Trade No.	Mfrs. No.	Voltage	Approx. Wt., Lbs. Boxed	Price Each
74424	262067	2000-3500	45	\$28.00
74425	262054	3501-5000	50	46.00
74426	277814	5001-7500	55	56.00

RESISTANCE RODS.—No. 272822 for 2000-3500 volts; No. 277823 for 3501-5000 volts. No. 277713 for 5001-7500 volts.

## UNLIMITED CAPACITY ARRESTERS

Trade No.	Mfrs. No.	Voltage	Approx. Wt., Lbs. Boxed	Price Each
81438	16598	2000-3500	150	29.50
81439	16599	3500-5175	160	40.00
81440	16600	5175-7500	175	60.00
81442	16602	10000-14500	225	96.00
81444	25028	19000-27500	375	265.00
81445	25029	27500-39000	450	290.00
81431	201597	2000-3500	240	48.00
81432	201598	3500-5175	256	60.00
81433	201599	5175-7500	280	88.50
81435	201601	10000-14500	360	155.00
81437	201603	19000-27500	600	385.00
81455	263045	27500-39000	700	645.00

Resistance rod, No. 98062, 2000-7500 volts. 1.50

Resistance rod, No. 210610, 10000-14500 volts. 1.80

Resistance rod, No. 214245, 19000-39000 volts. 2.40

Tell-tale papers, Form No. 5491 for shunted gaps, per pad of 50. 2.50

Tell-tale papers, Form No. 5492 for series gaps, per pad of 50. 2.50

Gap unit, No. 9587, for all voltages and Type LE Arresters. 2.00

Mfrs. No. and prices include arresters complete, ready for mounting but do not include mounting bolts. In ordering, state voltage upon which arresters are to be used.

\*Safety spark gap arrester. Maximum voltage application as a spark-gap on transformer secondary 0-1100 volts.



# WESTINGHOUSE LIGHTNING ARRESTERS

## TYPE W LIGHTNING ARRESTERS

MULTI- GAP TYPE, FOR A. C. LIGHT AND POWER CIRCUITS

For 5000 to 13200 Volts



No. 179914 Insulating Unit No. 201673

An excellent low-priced protection for the higher voltage distributing transformers. Similar in principle to the Type CR, consisting of spark gaps and series resistance. The gaps are between non-arcing metal cupped disks with arcing surface provided throughout the entire circumference of the disk, thus giving these arresters a very long life. The outdoor form is provided with a waterproof canopy over the spark gaps, all other parts being waterproof in both forms. A single unit is suitable for voltages up to 6600; and for voltages higher than that up to 13200, two units are used in series connected electrically by wires, in addition to the mechanical connection with an additional insulating unit between arresters and line. The arresters and the insulating unit are provided with an eye at the top and a hook at the bottom so that one unit may easily be suspended from the unit in series connection above it. This arrester is intended to be suspended from a cross-arm or from the line wire.



Ground Plate

Trade No.	Mfrs. No.	Description	Approx. Wt., Lbs.		Price Each
			Net	Boxed	
084796	179914	Indoor Type W Arrester	9½	21½	\$32.50
084797	201673	Outdoor Type W Arrester	10	25	34.00
81422	214316	Insulating unit			*4.00

\*Supplied without additional charge when specified on an order for Type W arresters in quantities not exceeding one insulator for each two arresters.

## LIGHTNING ARRESTER FITTINGS

The ground plate consists of a circular piece of cast iron 12 inches in diameter, ¾ inch thick with a ¾-inch pipe tap in the center for connecting to the arrester. The surface is increased by means of corrugations, as shown in the accompanying illustration, to 336 square inches, affording ample contact with the earth and capable of taking care of all discharges through the arrester.

The simplest and most effective method of securing a good ground for line arresters is by means of an iron pipe with a malleable iron point having a dipped galvanized finish and a brass cap with a lug for soldering the ground wire. The brass cap and malleable iron point are tapped for use with ¾-inch pipe.

For affording a convenient and ready method of mounting the Types MP and CR arresters on iron poles of various diameters, there are listed below three-pole band brackets. These brackets consist of two semi-circular light iron straps which are clasped around the pole and tightened by means of two bolts and nuts.

The arrester is mounted on the flattened part and secured thereto by bolts.



Ground Point and Cap

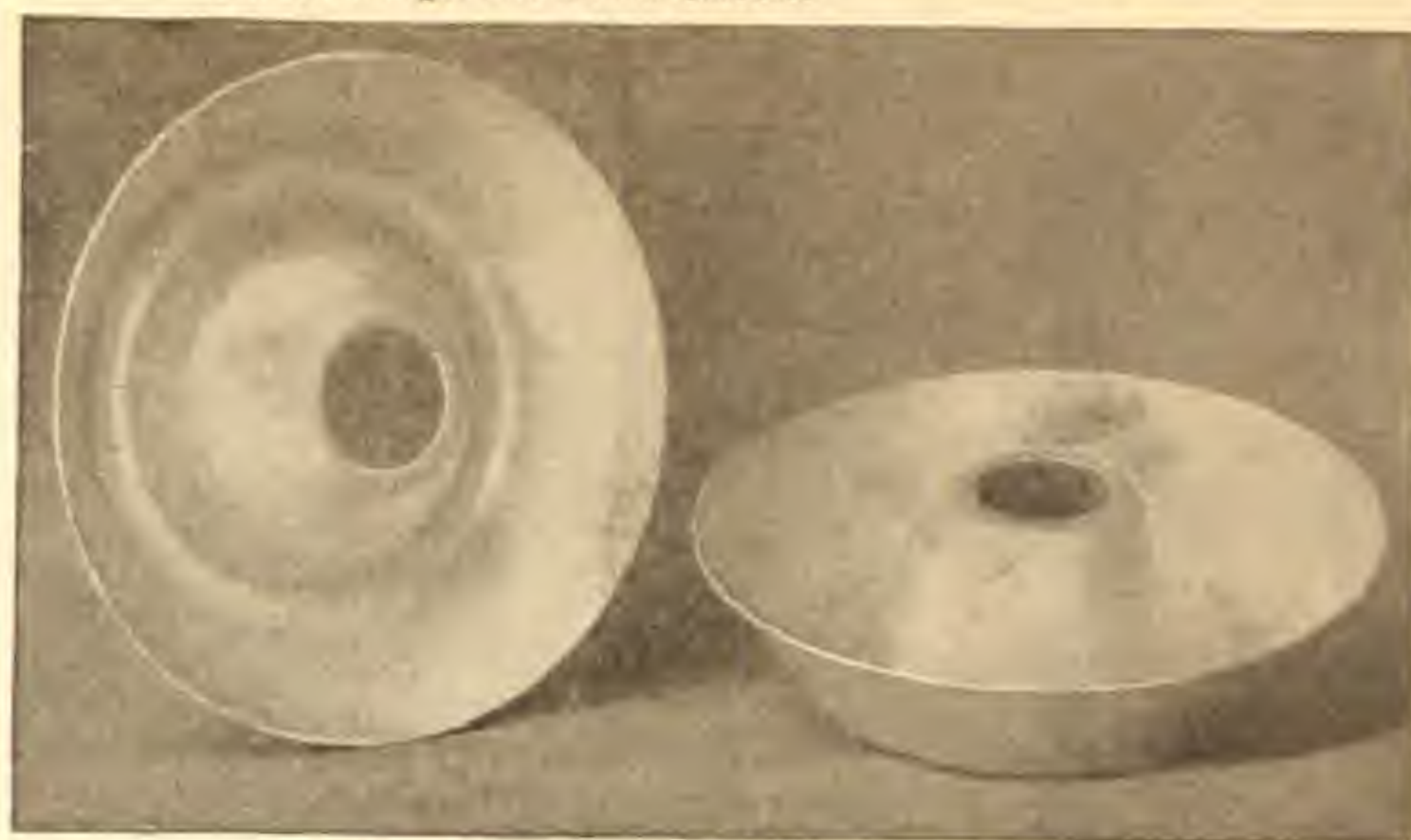


Pole Band

Trade No.	Mfrs. No.	Description	Approx. Wt., Lbs.		Price Each
			Net	Ship.	
173395	157171	Ground plate	7	13	\$210.00
173396	157170	Brass cap	½	½	74.00
173397	157169	Malleable point	1		112.00
173398	157172	6½-in. diameter pole-band	2	2	173.00
173399	157173	7½-in. diameter pole-band	2½	2½	176.00
173400	157174	8½-in. diameter pole-band	2¾	2¾	179.00



## WESTINGHOUSE LIGHTNING ARRESTERS

TYPE AK ELECTROLYTIC LIGHTNING ARRESTERS  
For A. C. Light and Power CircuitsStructure Used for  
Voltages up to 6600

Aluminum Tray for Electrolytic Arrester

Electrolytic lightning arresters are recommended for stations of large capacity operating at 1000 volts and above, particularly where generators are to be protected.

**GENERAL CONSTRUCTION.**—The Type AK electrolytic lightning arrester consists of a system of nested aluminum cup-shaped trays (supported on porcelain and secured in frames of treated wood) arranged in a steel tank. The system of trays is electrically connected between line and ground and between line and line. These trays contain a liquid electrolyte which, on charging the arrester, forms a film on their surfaces. This film prevents flow of current at normal voltages but forms a free path for abnormal voltages or static discharges. Upon cessation of the abnormal stress, the film regains its original resistance practically instantaneously and prevents power current from following the discharge.

Type AK arresters equipped with sphere gaps are listed herein for nominal voltages of 15001 volts and above. Arresters with horn gaps are listed up to and including a nominal voltage of 15000 volts. The gaps are so arranged that they are readily adjustable for any line voltage, and are provided with charge-and-discharge resistors on all arresters. Suitable mounting supports carry the sphere or horn gaps and their accessories.

**ARRANGEMENT OF TANKS.**—On indoor arresters for three-phase circuits up to 7500 volts, the electrolytic elements are contained in one grounded tank. On indoor arresters for three-phase circuits for 7501 to 15000 volts, two grounded tanks are used. On three-phase indoor arresters of 15001 volts and higher, four ungrounded tanks are used, one for each phase leg of the system and a ground leg. On all listed single-phase and two-phase arresters, one ungrounded tank is used.

Arresters for outdoor service are the same as indoor arresters except that outdoor insulators are provided on terminals. They are not provided for voltages of less than 5001.

Horn and sphere gap structures for indoor arresters for voltages up to 7500 are supported by the arrester tank and for voltages of 7500 to 15000 and for outside arresters for voltages up to 7500, are arranged for wall mounting. Horn and sphere structures are self-supporting on indoor arresters for voltages from 15001 to 25000 and on outdoor arresters for voltages of from 7501 to 69300. The supporting structures for other than wall or tank-mounted horn and sphere gaps are made up of wrought iron pipe and fittings. The vertical pipe or steel structure is not supplied for supporting the horn and sphere gaps on indoor arresters for voltages above 25000 and on outdoor arresters for voltages above 69300.

**CHARGE AND DISCHARGE RESISTANCE.**—All type AK arresters include a charge and discharge resistance connected between the main horn or sphere gap and the arrester proper. These resistance units consist of rod resistors shunted by one or more spark gaps. The resistor is of a composition known as the Koppat resistance, which possesses the quality of remaining practically uniform under all conditions of service. The shunt gaps are between small horn gaps.

In the operation of charging, the normal generator current takes the resistance path, thus limiting the charging current to a low value and damping out any oscillations that might result from charging due to the inductance and capacity of the line and arrester.

Lightning discharges of lesser intensity pass through the resistance, but heavy discharges find too much impedance in that path and instead break over the shunt gaps. After the lightning discharge has passed, the films on the trays rebuild and reduce the current to a value such that it is drawn out of the shunt gaps into the resistances.

These resistance units may be omitted from the standard arrester where it is thought that charging surges will not affect apparatus connected in the circuit, and allowance will be made for this omission.



# WESTINGHOUSE LIGHTNING ARRESTERS

## TYPE AK ELECTROLYTIC LIGHTNING ARRESTERS

FOR A. C. LIGHT AND POWER CIRCUITS

FOR THREE-PHASE GROUNDED OR UNGROUNDED NEUTRAL CIRCUITS

### Indoor Arresters with Horn Gaps\*

Trade No.	Mfrs. No.	No. of Tanks	Normal	VOLTAGE		Gals. of Electro-lyte	Gals. of Oil	WEIGHTS IN POUNDS APPROX. SHIP. WT.				Price Each
				Min.	Max.			Net, Erected	Complete With Oil and Electrolyte	Electro-lyte in Carboys	Oil	
206661	292786	1	.....	1000	3000	1 3/4	38	620	1050	54	348	On Application
206662	292787	1	.....	3001	5000	3	46	700	1140	62	530	
206663	292788	1	.....	5001	7500	4 1/2	55	790	1320	72	496	
187005	272967	2	.....	7501	15000	7 3/4	92	1295	2265	134	927	

### Indoor Arresters with Sphere Gaps

206664	306369	4	.....	15001	25000	13 1/2	138	2420	3190	220	1280	On Application
206665	306370	4	.....	25001	37000	22	192	3200	5220	312	1750	
187007	289642	4	44000	37001	46200	25	203	4080	6400	330	1845	
172115	280845	4	.....	46201	50000	27	211	4162	6600	355	1900	
187008	289641	4	66000	46201	69300	38	454	4270	10000	597	4160	
172117	280847	4	.....	69301	73000	40	465	7620	10240	617	4295	

### Outdoor Arresters with Horn Gaps\*

187009	266821	4	.....	5000	7500	4 1/2	55	800	1400	72	496	On
206666	306371	4	.....	7501	15000	7 3/4	102	2025	3090	134	817	Application

### Outdoor Arresters with Sphere Gaps

206667	306372	4	.....	15001	25000	13 1/2	138	2400	3220	220	1270	On Application
206668	306373	4	.....	25001	37000	22	192	3294	5370	312	1740	
87013	289639	4	44000	37001	46200	25	203	4085	6480	330	1830	
87014	231430	4	.....	46201	50000	27	211	4475	6700	355	1900	
87015	289640	4	66000	46201	69300	38	454	8090	10185	597	4095	
72119	231434	4	.....	69301	73000	40	465	8370	10390	617	4295	
206669	**315619	4	88000	69301	92400	55	1065	19669	22640	57	9540	
206670	†315620	4	88000	69301	92400	55	3580	44065	54365	57	29990	
206671	**315621	4	110000	92401	115500	64	1280	21995	25675	75	11750	
206672	†315622	4	110000	92401	115500	64	3950	47495	61870	75	34000	
206673	†315623	4	132000	115501	138600	77	5180	65100	81940	84	48750	
206674	†315624	4	154000	138601	161700	86	5480	68450	88525	98	51390	
.....	.....	.....	220000	161701	231000	.....	.....	.....	.....	.....	.....	

### FOR TWO-PHASE FOUR-WIRE CIRCUITS

#### Indoor Arresters with Horn Gaps

72128	266740	1	.....	1000	3000	1 3/4	40	620	1110	54	348	On
72131	266743	1	.....	5000	7500	4 1/2	58	790	1382	72	496	Application

### FOR TWO-PHASE THREE-WIRE CIRCUITS

#### Indoor Arresters with Horn Gaps

72132	266746	1	.....	1000	3000	1 3/4	39	557	1025	54	340	On
72135	266749	1	.....	5000	7500	4 1/2	52	720	1300	72	480	Application

### FOR SINGLE-PHASE UNGROUNDED NEUTRAL CIRCUITS

#### Indoor Arresters with Horn Gaps

72136	266752	1	.....	1000	3000	1 1/4	34	550	975	42	320	On
72139	266755	1	.....	5001	7500	3	46	700	1280	56	475	Application
72143	266757	1	.....	7501	15000	6	66	940	1800	80	705	

Mfrs. number and list price include arrester with gaps as described, complete with necessary electrolyte and with charge-and-discharge resistor.

\*Arresters for voltages below 15001 have horn gaps. The diameter of the rod used for making the horns of the gap, is so large with reference to the gap that the result obtained is practically the same as though sphere gaps were used.

\*\*Round tanks, tray structure in one column, tanks on insulated platform.

†Elliptical tanks with two terminals, tray structure in two columns, tray structure insulated from tanks, tanks may be mounted on any foundation and solidly grounded, thus giving increased protection to operator.



# WESTINGHOUSE LIGHTNING ARRESTERS

## TYPE AL IMPULSE GAPS

### Indoor

Trade No.	Mfrs. No.	VOLTAGE			Net Wt. Lbs. Erected, Incl. Oil Electrolyte	Approx. Wt. Lbs.	Price Each
		Normal	Min.	Max.			
186995	323890	.....	10000	15000	250	450	On Application
Outdoor							
172203	306361	.....	10000	15000	550	880	On Application
Indoor and Outdoor							
172204	306362	.....	15001	25000	575	925	
172205	306363	.....	25001	37000	650	1040	
172206	*262070	44000	.....	.....	1150	1760	
172207	*277810	66000	.....	.....	1480	2480	

Mfrs. No. and price include Type AL Impulse Gaps complete as described.

\*Mfrs. No. 262070 listed at normal voltage of 44000 is a 50000 maximum rated impulse gap and Mfrs. No. 277810 listed at normal voltage of 66000 is a 73000 volt maximum rated impulse gap. These gaps may be applied up to maximum rating.

## TYPE AL ELECTROLYTIC LIGHTNING ARRESTERS

### FOR THREE-PHASE GROUNDED, OR UNGROUNDED-NEUTRAL CIRCUITS

For Voltages up to 73000 Maximum

The Type AL is the same in construction as the Type AK, except that in place of sphere gaps, or horn gaps, the Type AL impulse gap described above is used.

### Indoor Arresters with Impulse Gaps

Trade No.	Mfrs. No.	No. of Tanks	VOLTAGE			Electrolyte Gals.	Gals. of Oil	WEIGHT IN POUNDS			Price Each
			Normal	Min.	Max.			Net Erected Including Oil and Electrolyte	Complete With Oil and Electrolyte	Electrolyte in Carboys	
172223	282247	4	.....	10000	15000	8½	92	1450	2400	130	850
172224	306364	4	.....	15001	25000	13½	138	2590	4090	220	1277
172225	306365	4	.....	25001	37000	20	192	3096	4835	308	1685
186997	289635	4	44000	37001	46200	25	203	4155	6315	340	1775
172210	262051	4	.....	46201	50000	27	211	4350	6600	370	1910
186998	289636	4	66000	46201	69300	38	454	7600	10100	550	4075
186999	262042	4	.....	69301	73000	40	465	7995	11320	580	4295

### Outdoor Arresters with Impulse Gaps

172226	306366	4	.....	10000	15000	8½	102	1560	2550	130	1090
172227	306367	4	.....	15001	25000	13½	138	2630	4190	220	1277
172228	306368	4	.....	25001	37000	20	192	3112	5035	308	1685
187000	289637	4	44000	37001	46200	25	203	4435	6315	340	1775
172215	262050	4	.....	46201	50000	27	211	4500	6820	370	1910
187001	289638	4	66000	46201	69300	38	454	7990	10125	550	4100
172216	280480	4	.....	69301	73000	40	465	8095	12040	580	4295

## PRICES OF TRAYS FOR TYPES A (D.C.), AK AND AL (A.C.) ARRESTERS

Trade No.	Mfrs. No.	Description	Price Each
172229	229147	Aluminum tray, (treated) without connection lug	On Application
172230	229148	Aluminum tray, (treated) with connection lug	On Application

## ACCESSORIES AND PARTS

172217	139794	Porcelain spacing block for trays	On Application
88475	125412	Cup for filling trays, (200 C.C.)	On Application
88477	197590	Alarm bell attachment including safety spark gap and alarm bell	On Application
88478	182908	Alarm bell attachment including electrolytic cell and alarm bell	On Application
88479	119083	Alarm bell alone	On Application
136596	248115	Charging-current jacks, up to 7500 volts indoor pipe frame mounting	On Application
136597	248116	Charging-current jacks, 7501 to 15000 volts indoor, pipe frame mounting	On Application
172231	316161	Charging-current jacks, 15001 to 50000 volts, indoor	On Application
172232	316161	Charging current jacks, 7501 to 50000 volts, outdoor	On Application
172233	316162	Charging-current jacks, 50001 to 73000 volts, indoor or outdoor	On Application
172234	321349	Charging-current jacks, 88000, 110000-volt outdoor round tank arresters	On Application
172235	321350	Charging-current jacks, 88000, 110000, 132000, and 154000-volt outdoor for elliptical tank arresters	On Application
136600	201604	Charging-current switch stick with ammeter, voltages up to 15000	On Application
112779	201605	Charging-current switch stick with ammeter, voltages 15001 to 50000	On Application
172218	201606	Charging-current switch stick with ammeter, voltages 50001 to 73000	On Application
172219	201607	Charging-current switch stick with ammeter, voltages 73001 to 115500	On Application
172220	201608	Charging-current switch stick with ammeter, voltages 115501 to 138600	On Application



## WESTINGHOUSE CHOKE COILS

FOR A. C. LIGHT AND POWER CIRCUITS



Type D-9 Line Suspension  
Choke Coil



Type 7  
Choke Coil

### TYPES D-9 AND D-15 LINE SUSPENSION CHOKE COILS

FOR VOLTAGES UP TO 220000 VOLTS

Line suspension Types D-9 and D-15 choke coils have been developed to meet the demand for a choke coil that can be inserted directly in the transmission line wire or in the station wiring and held in position by the tension of the line or station wires. Because of the fact that no insulators are required solely to support this choke coil, and that it can be installed in either a vertical or a horizontal position it can often be utilized very effectively in power and substation layouts.

A strain insulator is so arranged within the coil at its axis, that it assumes the mechanical tension transmitted from the conductors. No mechanical tension reaches the turns of the choke coil proper.

The coils are entirely symmetrical so that it is immaterial which end is connected to the line or to the apparatus.

#### Type D-9

Trade No.	Mfrs. No.	Amperes	APPROX. WT. LBS.		Price Each
			Net	Ship.	
36597	236447	200	33	93	\$65.00
36598	236449	400	47	111	96.00
36599	236450	600	106	136	136.00

#### Type D-15

Trade No.	Mfrs. No.	Amperes	APPROX. WT. LBS.		Price Each
			Net	Ship.	
36600	121727	200	45	105	99.00
36601	164463	400	66	130	143.00
36602	236446	600	167	198	185.00

### TYPE 7 INDOOR CHOKE COILS

FOR VOLTAGES UP TO 25000

Type 7 choke coils are of the flat or pancake type and are wound, without iron cores, on circular or elliptical center blocks.

They have a large number of layers and few turns per layer; (excepting those made for small currents, they usually have one turn per layer), which gives at once the best condition for insulating and cooling. This line of choke coils is intended for the protection of generators, motors and transformers or wherever else a larger impedance is desired.

All coils are air cooled and a separate coil is used for each line wire. The coils are heavily insulated and have the line lead at the top.

These choke coils are arranged for ready mounting directly on the wall of the station. This is usually the most convenient location since the line wires on entering the building should go directly to the choke coils after connection to the lightning arresters. The method of mounting gives an excellent insulation and a ready dissipation of heat.

Trade No.	Mfrs. No.	Amps.	APPROX. WT. LBS.		Price Each	Trade No.	Mfrs. No.	Amps.	APPROX. WT. LBS.		Price Each
			Net	Ship.					Net	Ship.	
112780	243608	9	27	42	\$75.00	112787	243615	120	56	102	\$307.50
112781	243609	12	28	43	75.00	112788	243616	170	64	110	362.50
112782	243610	19	29	44	75.00	207293	243617	200	85	140	390.00
112783	243611	30	31	46	75.00	207294	243618	230	106	161	412.50
112784	243612	45	32	47	121.00	207295	243619	270	179	254	462.50
112785	243613	75	35	50	198.00	207296	243620	300	194	270	470.00
112786	243614	100	41	56	252.50	207297	243621	345	267	367	480.00



## WESTINGHOUSE CHOKE COILS

## FOR A. C. LIGHT AND POWER CIRCUITS

Choke coils are intended to be connected between the power line and a generator or transformer, to protect the apparatus from the high voltage built up in the ends of the winding when a high frequency surge due to lightning or any other cause travels along the line and strikes the inductive winding. This may break down the insulation between turns to ground, and the heavy power current following may cause great damage.

The choke coils, being strongly insulated between turns and to ground, relieve the end turns of the apparatus by receiving the first shock of the surge and flattening it before it can enter the power apparatus. The voltage is thus piled up momentarily at the line end of the choke coils, giving the lightning arrester more time and more tendency to discharge and thus to relieve the line.

Choke coils should be chosen with proper proportion to protect the power apparatus, also of course having sufficient current capacity to avoid overheating.

## TYPE D-6 CHOKE COILS

For Voltages up to 15000

Type D-6 are the smallest Westinghouse Choke Coils, made on insulated wire, wound on wooden core. They are for use where only moderate protection is desired. They have capacities up to 200 amperes with two forms of mounting as follows: For 5000 volts, standard coil with iron feet, may be mounted in any position; for 15000 volts, standard coil on porcelain pillar-insulators with flat iron mounting castings.

Trade No.	Mfrs. No.	Maximum Voltage	Amperes	APPROX. WT., LBS.		Price Each
				Net	Ship.	
137471	237782	5000	25	14	30	\$22.00
137472	237783	5000	50	15	31	25.75
137473	237784	5000	75	16	32	29.75
137474	237785	5000	100	18	34	33.00
137477	242687	15000	25	20	38	30.00
137478	242688	15000	50	21	39	35.00
137479	242689	15000	75	22	40	41.00
137480	242690	15000	100	24	42	46.00



Type D-9 Indoor Choke Coil

## TYPE D-9 INDOOR CHOKE COILS

For Voltages up to 7500

Type D-9 indoor coils are supported by cast terminals direct on a marble base, which affords a high protective value for service up to its voltage rating and for low voltage circuits has the advantage of a more compact method of mounting.

## Marble Base

Trade No.	Mfrs. No.	Volts	Amperes	APPROX. WT., LBS.		Price Each
				Net	Ship.	
137485	230225	7500	200	55	110	\$68.50
137486	230226	7500	400	63	118	106.00
137487	230227	7500	600	85	140	143.00
137488	236440	7500	800	105	160	179.00
137489	236441	7500	1000	125	180	215.00
137490	236442	7500	1400	145	205	280.00
137491	236443	7500	1700	169	230	345.00
137492	236444	7500	2000	203	265	400.00
137493	236445	7500	2400	240	305	472.50

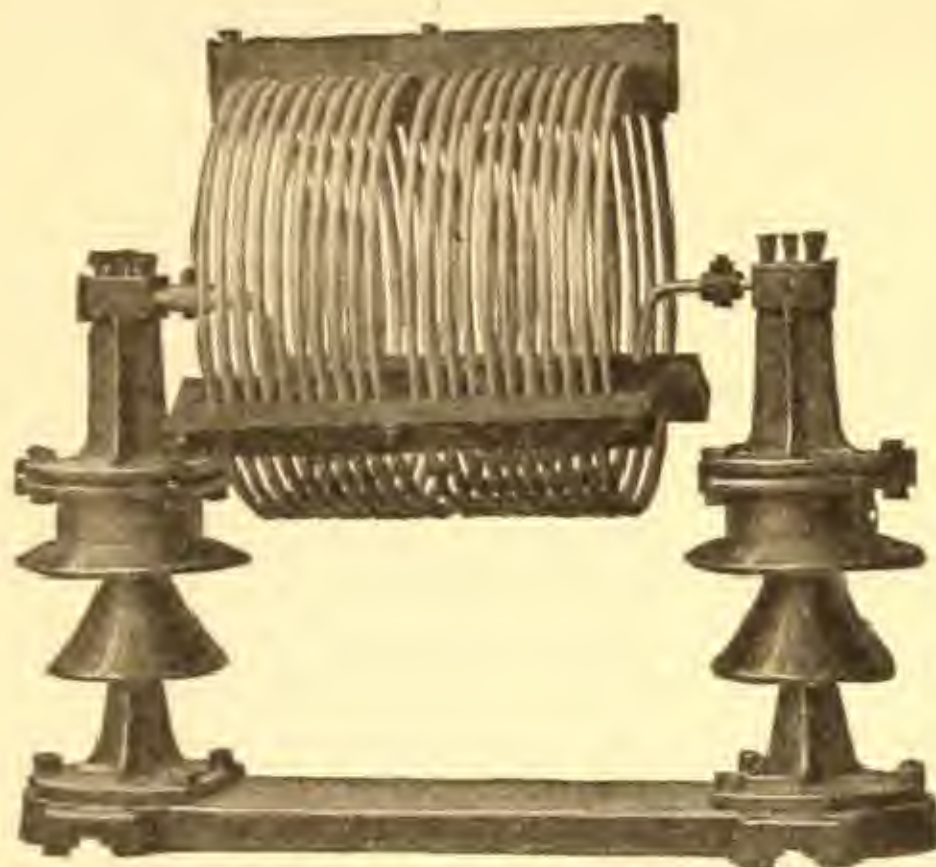


## WESTINGHOUSE CHOKE COILS

FOR A. C. LIGHT AND POWER CIRCUITS

### TYPE D-9 AND D-15 MOUNTED CHOKE COILS

For Voltages up to 132000 A. C.



Type D-15 Choke Coil

Types D-9 and D-15 choke coils are available for service over the entire range of standard voltages.

The Type D-15, using a 15-inch coil, with consequently approximately six times the impedance of the Type D-9, represents a design available for installations where maximum protection with this type of coil is desired or warranted.

The coil in these types is a helix of aluminum rod in 200 and 400-ampere capacities and of copper in capacities of 600 amperes and above. The Type D-9 coil is about 9 inches in diameter and contains 13 turns. The Type D-15 coil equipped with sherardized terminals is about 15 inches in diameter and contains 20 turns in all sizes up to 66000 normal rated volts. Above this voltage the coils contain 30 turns. Bracing clamps are provided to rigidly separate the turns and give mechanical strength to the helix.

Both types are listed for outdoor mounting up to 132000 rated volts and a separate line of indoor Type D-9 coils is shown for voltages up to 7500 normal rated volts. All ratings of indoor or outdoor Type D-9 above 66000 volts and all Type D-15 coils are adapted to inverted mounting.

All coils are thoroughly insulated according to standard practice for this class of apparatus.

The Type D-9 indoor or outdoor coils up to 44000 normal rated volts are mounted on pin-type insulators, two of which are required for each coil. The insulators are in turn mounted on a channel iron base. The coils can be mounted only in an upright horizontal position.

Type D-9 indoor or outdoor coils in 66000 normal rated volts, is mounted on two pin-type insulators which are bolted to a sheet steel base. The unit in turn is supported by a single pin-type insulator mounted on a channel iron base.

Type D-9 indoor or outdoor coils, 88000 normal rated volts and above, are mounted the same as outlined in the preceding paragraph, except that instead of the single pin-type insulator a built-up and bolted together main insulator is used. This bolted-together construction makes it possible to change easily the number of insulators used per column, or to replace defective porcelain units without replacing the entire column. This type is invertible by inverting all three insulators.

Type D-15 coils up to and including 66000 normal rated volts are supported directly on two pin-type insulators, which are bolted to a cast iron base. Type D-15 coils, 88000 normal rated volts and above are mounted similarly on two built-up insulators mounted on a channel iron base.



## WESTINGHOUSE CHOKE COILS

FOR A. C. LIGHT AND POWER CIRCUITS

TYPE D-9 INDOOR OR OUTDOOR CHOKE COILS—INVERTIBLE  
FOR 88000 VOLTS AND ABOVE

Wall or Pipe Mounting

Trade No.	Mfr. No.	VOLTAGE		Amperes	Mounting	Approx. Net	Wt., Lbs. Boxed	Price Each
		Normal	Maximum					
206685	285371		15000	200	Channel Iron Base	70	140	\$55.00
206686	277954		25000	200	Channel Iron Base	85	160	62.50
206687	277809		37000	200	Channel Iron Base	100	180	73.50
206688	262062	* 44000		200	Channel Iron Base	120	205	78.00
206689	285374	* 66000		200	Channel Iron Base	130	210	96.00
206690	236621	† 88000		200	Channel Iron Base	182	280	187.50
206691	236622	† 110000		200	Channel Iron Base	195	300	210.00
206692	236623	† 132000		200	Channel Iron Base	210	320	227.50
206693	285372		15000	400	Channel Iron Base	92	160	73.50
206694	277956		25000	400	Channel Iron Base	102	180	82.00
206695	267047		37000	400	Channel Iron Base	117	200	92.50
206696	262055	* 44000		400	Channel Iron Base	137	225	96.00
206697	285375	* 66000		400	Channel Iron Base	147	230	114.00
206698	237863	† 88000		400	Channel Iron Base	200	300	210.00
206699	237864	† 110000		400	Channel Iron Base	222	320	230.00
206700	237865	† 132000		400	Channel Iron Base	237	340	235.00
206701	285373		15000	600	Channel Iron Base	185	280	96.00
206702	277955		25000	600	Channel Iron Base	160	235	104.00
206703	277807		37000	600	Channel Iron Base	175	255	113.00
206704	277816	* 44000		600	Channel Iron Base	195	280	120.00
206705	285376	* 66000		600	Channel Iron Base	205	295	136.00
206706	237870	† 88000		600	Channel Iron Base	260	355	235.00
206707	237890	† 110000		600	Channel Iron Base	270	375	255.00
206708	237891	† 132000		600	Channel Iron Base	285	395	275.00

## TYPE D-15 INDOOR OR OUTDOOR CHOKE COILS—INVERTIBLE

Wall or Pipe Mounting

Trade No.	Mfr. No.	VOLTAGE		Amperes	Mounting	Approx. Net	Wt., Lbs. Boxed	Price Each
		Normal	Maximum					
137516	183508		25000	200	Cast Iron Base	110	241	\$106.00
137517	183509		37000	200	Cast Iron Base	126	258	122.00
206709	183510	* 44000		200	Cast Iron Base	150	282	130.00
206710	183511	* 66000		200	Cast Iron Base	180	311	152.00
206711	142399	† 88000		200	Channel Iron Base	280	423	322.50
206712	142400	† 110000		200	Channel Iron Base	300	460	382.50
206713	237852	† 132000		200	Channel Iron Base	320	480	430.00
137518	183512		25000	400	Cast Iron Base	127	257	142.00
137519	183513		37000	400	Cast Iron Base	143	275	156.00
206714	183514	* 44000		400	Cast Iron Base	167	298	165.00
206715	183515	* 66000		400	Cast Iron Base	197	328	190.00
206716	179961	† 88000		400	Channel Iron Base	303	446	415.00
206717	179962	† 110000		400	Channel Iron Base	323	483	430.00
206718	237871	† 132000		400	Channel Iron Base	343	503	480.00
137520	183516		25000	600	Cast Iron Base	187	330	190.00
137521	223412		37000	600	Cast Iron Base	233	376	205.00
206719	223413	* 44000		600	Cast Iron Base	257	400	215.00
206720	223414	* 66000		600	Cast Iron Base	290	430	237.50
206721	237880	† 88000		600	Channel Iron Base	390	542	540.00
206722	237881	† 110000		600	Channel Iron Base	410	565	580.00
206723	237882	† 132000		600	Channel Iron Base	430	588	620.00
137522	† 183517		25000	800	Cast Iron Base	318	458	280.00
137523	† 183518		25000	1000	Cast Iron Base	405	555	410.00

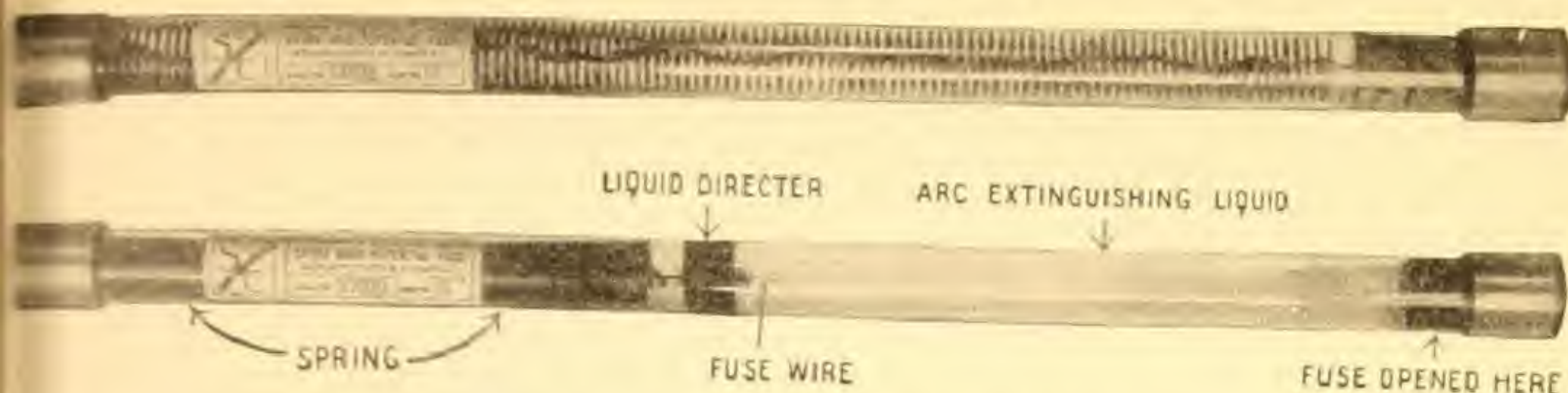
\*Choke coils rated at 44000 normal voltage have a maximum rating of 50000 volts and choke coils rated at 66000 normal voltage have a maximum rating of 73000 volts. These coils may be applied up to maximum rating.

†Choke coils rated at 88000 normal voltage or higher may be applied on systems having a maximum voltage not exceeding 5 per cent above rated voltage.

‡On account of considerable weight of these coils they should be mounted in a horizontal position. For other mounting, either vertical or ceiling mounting, special coils will be supplied.



## S. & C. EXTRA HIGH POTENTIAL FUSES



Type B Fuses, Before and After Blowing

S & C Extra High Potential Fuses clear the circuit rapidly, limiting the rush of current to a minimum, and in clearing the circuit produce no disturbance, nor do they endanger surrounding apparatus by their operation.

The glass tube is filled with a non-inflammable liquid of extremely high dielectric strength, having none of the objectionable characteristics of oil. This liquid is not only not an oil, and therefore non-inflammable, but is one of the most effective fire-extinguishing liquids known.

The melting of the fuse wire releases the spiral spring which contracts instantaneously, drawing the fuse wire down towards the bottom of the tube and thus introducing a very large gap. Simultaneously with the introduction of this gap, the liquid extinguishes the arc and interrupts the current flow, the rapidity of its action being accelerated by the liquid director, which is drawn down with the spring and so forces the liquid directly onto the moving terminal.

Since the dielectric strength of the liquid is about 250000 volts per inch, the gap between the top ferrule and the top end of the submerged spring gives an enormous factor of safety. The dimensions of the glass tube and other parts vary, depending upon the ampere capacity and voltage rating of the fuse.

The fuses described above are Type B fuses. This type of fuse is furnished for currents up to and including 25 amperes. For currents higher than 25 amperes the Type D fuse is furnished. This type has no cork, but the fusible element is placed in a separate explosion chamber at the upper end of the fuse. With this design all strains on fuse tube are avoided during violent short circuit operation.

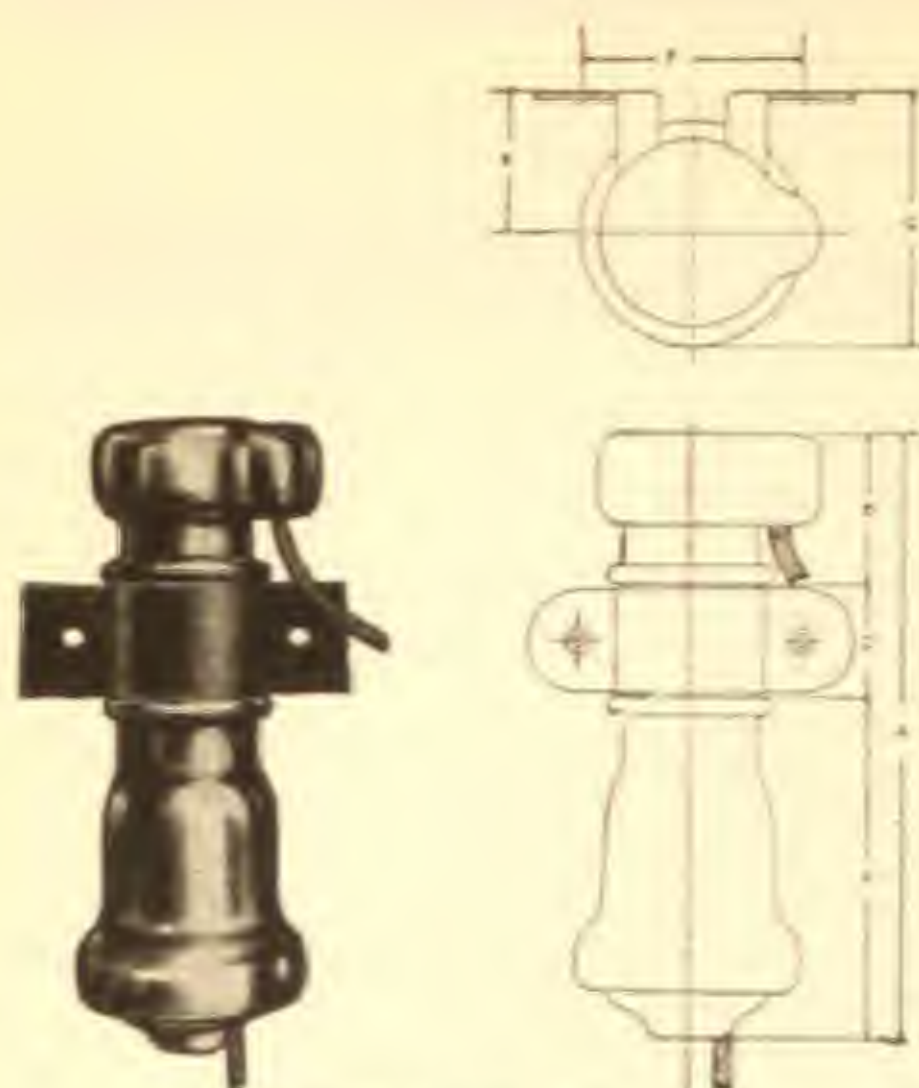
S & C Fuses are regularly furnished with glass tubes, but can also be furnished with special non-fragile Bakelized tubes on special order.

7500 Volts				25000 Volts				37000 Volts			
Cap. amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.
-5	148170	2011	\$3.50	148184	2013	\$4.50	148191	2014	\$7.50		
-10	148171	2021	4.00	148185	2023	5.50	148192	2024	9.50		
1-25	148172	2031	5.00	148186	2033	8.00	148193	2034	18.00		
6-50	148173	2041	7.00	148187	2043	10.50	148194	2044	26.00		
1-100	148174	2051	11.00	148188	2053	15.00	148195	2054	40.00		
01-200	148175	2061	14.00	148189	2063	19.00	148218	2064	54.00		
Potential Trans.	148176	2091	3.50	148190	2093	4.50	148196	2094	7.50		
50000 Volts				70000 Volts				115000 Volts			
Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Price Each
48201	2015	1-5	\$12.00	148207	2016	1-5	\$18.00				
48202	2025	6-10	15.00	148208	2026	6-10	22.00				
48203	2035	11-25	28.00	148209	2036	11-25	40.00				
48204	2045	26-50	38.00	148210	2046	26-50	50.00				
48205	2055	51-100	50.00	148211	2056	51-100	60.00				
48220	2065	101-200	68.00	148212	2096	Potential Trans.	18.00				
48206	2095	Potential Trans.	12.00								
90000 Volts											
Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Price Each
48213	2017	1-5	\$28.00	148198	2018	1-5	\$40.00				
48214	2027	6-10	35.00	148199	2028	6-10	50.00				
48215	2037	11-25	50.00	148223	2038	11-25	70.00				
48221	2047	26-50	70.00	148200	2098	Potential Trans.	40.00				
48222	2097	Potential Trans.	28.00								

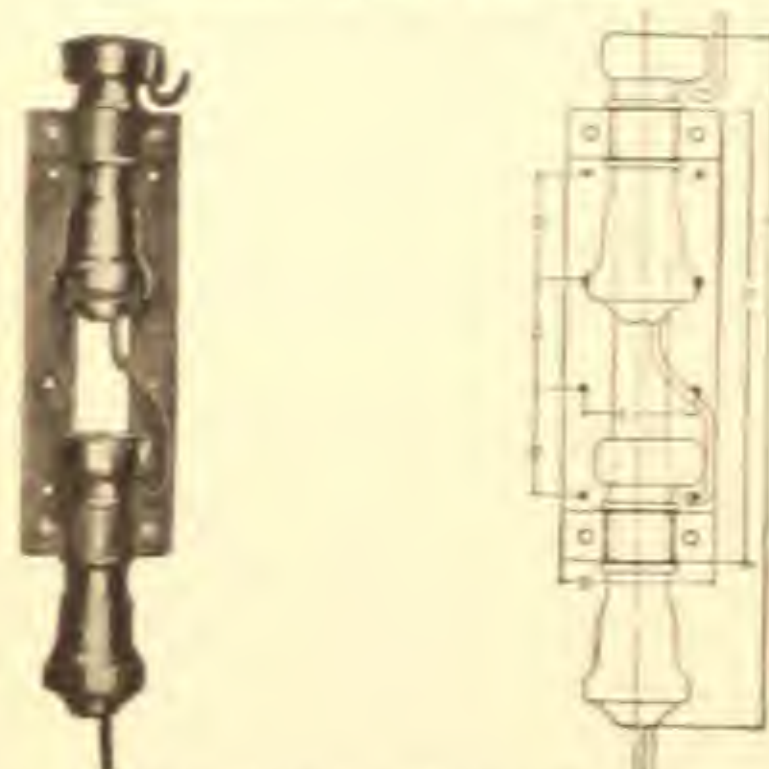
7500 volts, 8-in. centers; 15000 and 25000 volts 11½-in. centers; 37000 volts, 15-in. centers; 50000 volts, 18-in. centers; 70000 volts, 24-in. centers; 90000 volts, 30-in. centers; 115000 volts; 6-in. centers.



## KEYSTONE EXPULSION LIGHTNING ARRESTERS



Nos. 50632, 50633, and 50636



Nos. 50640 and 50641

## EXPULSION TYPE

Keystone Expulsion Type Lightning Arresters are designed principally for the protection of transformers and similar apparatus. They combine in a marked degree the desirable features of low first cost, ease and cheapness of installation, ease of inspection and very desirable operating characteristics. They are not at all designed to supplant or supersede the standard Garton-Daniels Lightning Arresters which are recommended for use in protecting important installations of line and station apparatus.

The Expulsion Arrester fills the demand for an inexpensive arrester, an arrester that is self-contained, that is easy to install and inspect, that is small enough to be installed directly on the transformer pole without crowding and that will give efficient lightning protection.

Types N and NS Neutral Arresters listed below are designed for protecting the neutral wire of transformers installed on grounded neutral circuits, where the neutral wire is grounded only at power or sub-station, and not dead grounded at the transformer installation. They are of the self-contained type, consisting of non-arcing metal electrodes separated by a small air gap, the whole being enclosed in a glazed porcelain body. The Type N arrester is supplied with an iron band which slips over the arrester body, so allowing same to be attached to the cross-arm or other supporting means. The Type NS arrester is designed to be hung directly from the line wire. Maximum height of either type is  $2\frac{5}{8}$  inches; width,  $3\frac{1}{4}$  inches.

Trade No.	Mfrs. No.	Type Form	Description	Std. Pkg.	Price Each
68714	50672	EX 0	350 to 1200 volts A. C.	12	\$8.25
68705	50632	EX 1	1220 to 2500 volts A. C.	12	10.50
68706	50633	EX 2	2500 to 3500 volts A. C.	6	13.00
68707	50636	EX 3	2500-volt 2 and 3 ph. grounded circuits	12	13.00
68708	50640	EX 4	3500 to 5000 volts A. C.	6	23.00
68710	50642	N	Neutral, for cross-arm mounting	24	2.00
68711	50643	NS	Neutral, for line suspension	24	1.90
68712	50671	EX	C-6 Arrester, 5000 to 7500 volts A. C.	3	28.00

## Dimensions

Mfrs. No.	DIMENSIONS, INCHES							Net Wt., Lbs.
	A	B	C	D	E	F	G	
50672	$10\frac{3}{4}$	$2\frac{7}{8}$	$2\frac{1}{8}$	$5\frac{3}{4}$	$2\frac{5}{8}$	$4\frac{1}{8}$	$4\frac{3}{4}$	7
50632	$10\frac{3}{4}$	$2\frac{7}{8}$	$2\frac{1}{8}$	$5\frac{3}{4}$	$2\frac{5}{8}$	$4\frac{1}{8}$	$4\frac{3}{4}$	7
50633	$11\frac{3}{8}$	$2\frac{7}{8}$	$2\frac{1}{8}$	$6\frac{3}{8}$	$2\frac{5}{8}$	$4\frac{1}{8}$	$4\frac{3}{4}$	$7\frac{1}{2}$
50636	$11\frac{3}{8}$	$2\frac{7}{8}$	$2\frac{1}{8}$	$6\frac{3}{8}$	$2\frac{5}{8}$	$4\frac{1}{8}$	$4\frac{3}{4}$	$7\frac{1}{2}$
50640	$26\frac{7}{8}$	$6\frac{1}{4}$	18	$4\frac{1}{8}$	$4\frac{1}{2}$	...	...	22
50641	$27\frac{1}{2}$	$6\frac{1}{4}$	18	$4\frac{1}{8}$	$4\frac{1}{2}$	...	...	$22\frac{1}{2}$
50671	$27\frac{1}{4}$	$6\frac{1}{4}$	18	$4\frac{1}{4}$	$4\frac{1}{2}$	...	...	$23\frac{1}{2}$

Type DF  
Wood CoveredType EG  
Wood CoveredType EH  
Wood Covered



## GARTON-DANIELS LIGHTNING ARRESTERS

### DIRECT CURRENT

Direct current arresters, station type, are furnished with highly polished and lacquered metal work. Pole or car arresters have a dipped metal finish, but aside from this are the same as the station type. Pole and car arresters are furnished in either wooden or iron covers, as required. Iron covers are, however, not furnished on arresters for voltages above 750. Both covers are of our standard design, fitted with insulated bushings for the leading-in wires and the arrester carefully insulated from the cover.



Type DF  
Iron Covered

#### TYPE DF

0-350 Volts

Trade No.	Mfrs. No.	Description	Dimensions Inches	Wt. Lbs.	Std. Pkg.	Price Each
081072	50014	Station type	8 1/2 x 3 x 3	2 3/4	12	\$8.50
081073	50016	Iron covered	12 1/2 x 6 x 4	11 1/8	12	11.00
081074	50015	Wood covered	13 1/2 x 7 x 6	6 3/4	12	9.50

#### TYPE EG

350-750 Volts

Trade No.	Mfrs. No.	Description	Dimensions Inches	Wt. Lbs.	Std. Pkg.	Price Each
081075	50039	Station type	9 7/8 x 3 5/8 x 3	4 1/2	12	\$9.00
081076	50040	Iron covered	13 1/2 x 6 1/2 x 4 1/2	13 1/2	12	12.00
081077	50041	Wood covered	14 1/2 x 7 x 6 1/4	8 1/2	12	10.50
081078	11779	Iron car	13 1/2 x 6 1/2 x 4 1/2	13 1/2	12	12.00
081079	11780	Wood car	14 x 7 x 6 1/4	8 1/2	12	10.50

#### TYPE EH

750-1350 Volts

Trade No.	Mfrs. No.	Description	Dimensions Inches	Wt. Lbs.	Std. Pkg.	Price Each
35318	50338	Station type	19 3/8 x 4 x 3 7/8	11 1/2	12	\$18.00
35319	50339	Wood car	21 1/2 x 10 1/2 x 6 3/4	21	12	20.00
35320	50400	Wood covered	25 1/4 x 8 3/8 x 7 3/4	21 1/2	12	20.00

#### TYPE EJ

1350-1800 Volts

Trade No.	Mfrs. No.	Description	Dimensions Inches	Wt. Lbs.	Std. Pkg.	Price Each
46879	50404	Station type	19 3/8 x 4 x 3 7/8	11 1/2	12	\$20.00
46880	50405	Wood car	21 1/2 x 10 1/2 x 6 3/4	21	12	22.00
46881	50406	Wood covered	25 1/4 x 8 3/8 x 7 3/4	21 1/2	12	22.00

#### TYPE EK

1800-2400 Volts

Trade No.	Mfrs. No.	Description	Dimensions Inches	Wt. Lbs.	Std. Pkg.	Price Each
35321	50426	Station type	49 x 8 x 17 1/2	45	6	\$40.00
35322	50427	Wood covered	49 x 13 x 15 1/2	58	6	44.00

### ARC CIRCUIT ARRESTERS

Direct Current

Trade No.	Mfrs. No.	Type	Voltage of Current	Description	Wt. Lbs.	Std. Pkg.	Price Each
081080	50077	BD	0-4000	Station type	6 3/4	12	\$11.25
081081	50078	BD	0-4000	Wood covered	12 1/2	12	12.25
35316	50073	BD	4000-6000	Station type	20	6	30.00
35317	50074	BD	4000-6000	Wood covered	26 1/2	6	32.00

Alternating Current

Trade No.	Mfrs. No.	Type	Voltage of Current	Description	Wt. Lbs.	Std. Pkg.	Price Each
35309	50088	CE-2	0-2500	Station type	8	12	11.25
35311	50089	CE-2	0-2500	Wood covered	13 1/2	12	12.25
35312	50091	F-2	2500-3500	Station type	11 1/2	12	12.00
35313	50092	F-2	2500-3500	Wood covered	15 3/4	12	13.25
35314	50093	CE-2	3500-5000	Station type	26 1/2	6	30.00
35315	50094	CE-2	3500-5000	Wood covered	49	6	32.00

The above are standard types of arc circuit lightning arresters. They will meet practically all standard conditions. Arresters for higher voltages or for special conditions can be furnished to order.



Type EH  
Wood Covered





No. 50421



No. 50422



No. 50423



No. 50424



No. 50425



No. 50079



No. 50080



No. 50081



No. 50431

## GARTON-DANIELS ARRESTER HANGERS AND GROUND FITTINGS

### LIGHTNING ARRESTER HANGERS

Lightning arrester cross-arm hangers are designed to support single unit lightning arresters from either one or two cross-arms. Fitted with these hangers, they are easy and cheap to install, have strong, rigid supporting means and when so hung make a better appearance than the non-uniform schemes used in lightning arrester installation.

Supports A and D are made from  $1\frac{1}{2} \times \frac{3}{4}$ -inch strap iron, and are designed especially for attaching lightweight arresters, such as Types DF, FH and EG from either one or between two cross-arms.

Supports B, C and E are made from  $1 \times \frac{3}{4}$ -inch strap iron, and are suitable for use with any single unit type of G-D Arrester. Style B is of the single-arm type; Styles C and E are of the two-arm type.

All supports are made of hot galvanized iron, attached to arrester box by suitable screws. Styles A, B and C are regularly furnished for  $3\frac{1}{2}$ -inch cross-arm; this regular size is also suitable for  $3\frac{1}{4}$ -inch arms. Styles C, D and E are regularly drilled for arms installed on 24-inch centers; this standard drilling only is carried in stock. Special drillings will be furnished to order. All hangers are furnished complete with necessary screws and ready to be attached to box.

Trade No.	Mfrs. No.	Style	Price Each	Trade No.	Mfrs. No.	Style	Price Each
104706	50421	A	\$0.40	104709	50424	D	\$0.40
104707	50422	B	.60	104710	50425	E	.50
104708	50423	C	.70				

### LIGHTNING ARRESTER GROUND FITTINGS

For  $\frac{1}{2}$ -inch Pipe

Trade No.	Mfrs. No.	Description	Dimens. Inches	Net Wt.	Price Each
104721	50079	Brass cap for No. 4 or 6 solid	$1 \times 1\frac{3}{4} \times 1\frac{1}{2}$	5 oz.	\$0.45
104691	50428	Brass cap for No. 0 cable or solid	$1 \times 2 \times 1\frac{1}{2}$	6 oz.	.45
104692	50429	Brass cap, for $\frac{1}{4}$ -in. cable	$1 \times 2 \times 1\frac{1}{2}$	6 oz.	.45
35333	50080	Brass coupling, for No. 4 or 6 solid	$1\frac{5}{8} \times 1\frac{3}{4} \times 1\frac{3}{8}$	5 oz.	.40
104693	50430	Brass coupling for No. 0 cable or solid	$1\frac{5}{8} \times 2 \times 1\frac{3}{8}$	6 oz.	.40
35334	50081	Mall. point, external type	$3\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{8}$	8 oz.	.45
104694	50431	Mall. point, internal type	$2\frac{3}{4} \times 1 \times 1$	7 oz.	.40
104695	42292	Galv. pipe tee	Std. $\frac{3}{4}$	10 oz.	.15
104696	50440	Galv. pipe coupling	Std. $\frac{3}{4}$	5 oz.	.15
35335	50082	Gray iron plate	$12 \times 12 \times \frac{3}{4}$	9 lbs.	1.20

For 1-inch Pipe

104697	50432	Brass cap, for No. 4 or 6 solid	$1 \times 2\frac{1}{8} \times 1\frac{3}{4}$	6 oz.	.55
104698	50433	Brass cap, for No. 0 cable or solid	$1 \times 2\frac{1}{4} \times 1\frac{3}{4}$	7 oz.	.55
104699	50434	Brass cap, for $\frac{1}{4}$ -in. cable	$1 \times 2\frac{1}{4} \times 1\frac{3}{4}$	7 oz.	.55
104700	50435	Brass coupling, for No. 4 or 6 solid	$1\frac{11}{16} \times 2\frac{1}{2} \times 1\frac{3}{4}$	8 oz.	.50
104701	50436	Brass coupling, for No. 0 cable or solid	$1\frac{11}{16} \times 2\frac{3}{8} \times 1\frac{3}{4}$	8 oz.	.50
104702	50437	Mall. point, external type	$3\frac{3}{4} \times 1\frac{1}{2} \times 1\frac{1}{8}$	13 oz.	.55
104703	50438	Mall. point, internal type	$3\frac{1}{4} \times 1\frac{3}{8} \times 1\frac{1}{8}$	11 oz.	.50
104704	50439	Galv. pipe tee	Std. 1	15 oz.	.20
104705	50441	Galv. pipe coupling	Std. 1	8 oz.	.20

### BONDS, CONNECTORS, POLE BANDS AND GROUND WIRE DISCONNECTORS

Trade No.	Mfrs. No.	Description	Price
104713	12346	Cylindrical wire connector for No. 4 or 6 B. & S. solid	.09 each
104714	12344	Cylindrical wire connector for No. 0 B. & S. solid	.14 each
104715	12342	Cylindrical wire connector for No. 0 B. & S. cable	.25 each
104716	50331	*Iron pole band for $6\frac{5}{8}$ -inch pole	13.00 per doz.
104717	50332	*Iron pole band for $7\frac{5}{8}$ -inch pole	13.00 per doz.
104718	50333	*Iron pole band for $8\frac{5}{8}$ -inch pole	13.00 per doz.
104719	50444	Ground wire disconnecter for No. 4 or 6 B. & S. solid	1.25 each

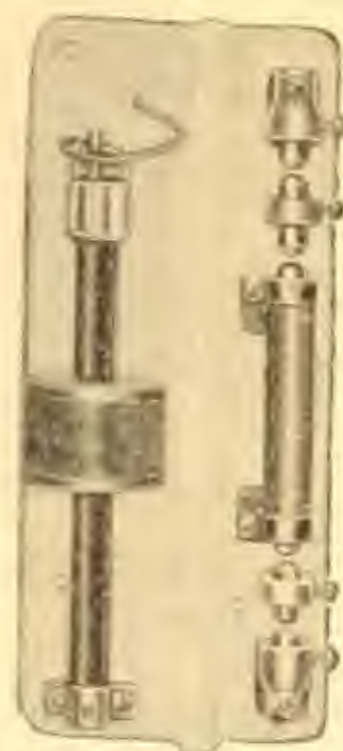
\*Pole bands include pole band brackets for attaching to our regular wood or iron covers.



# GARTON-DANIELS LIGHTNING ARRESTERS ALTERNATING CURRENT



Type T



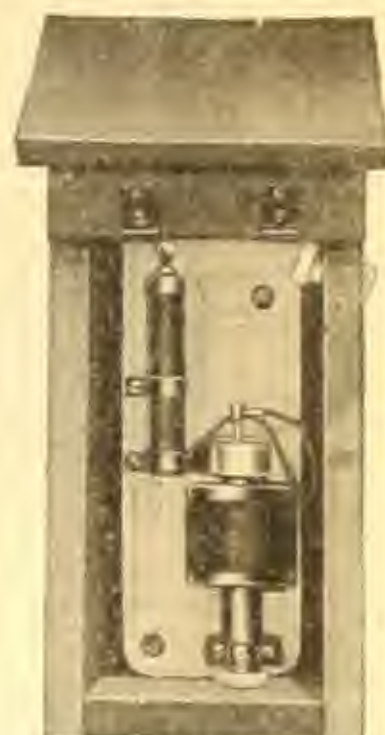
Type CE-2 Station



Type CE-2  
Wood Covered



Type F-2  
Station



Type FH  
Wood Covered

Garton-Daniels Alternating Current Arresters are furnished according to practically the same specifications applying to the direct current arresters. They combine the well recognized principles of a small air gap, a low series resistance and a circuit breaker.

High tension arresters consist of the standard Types CE-2 and F-2 units connected in series. The advantages of the single units, therefore apply just as strongly to these higher voltage types. Arresters for station use are mounted on heavy impregnated oak frames, and are furnished complete with insulators. Pole arresters are furnished in well made wood covers and are also furnished complete with insulating supports for attaching to pole or other suitable supporting means.



Type CE-2  
5000 V., Wood  
Covered



Type CE-2  
7500 V., Station

Trade No.	Mfr. No.	Type	Voltage of Circuit	Description	Dimensions Inches	Wt. Lbs.	Std. Pkg	Price Each
049001	300	T	0-350	Iron covered	3 1/2 x 3 1/2	2 1/2	12	\$4.00
049002	50014	DF	0-350	Station type	8 1/2 x 3 x 3	2 1/2	12	8.50
049003	50016	DF	0-350	Iron covered	12 1/2 x 6 x 4	11 1/2	12	11.00
049004	50015	DF	0-350	Wood covered	13 1/2 x 7 x 6	6 1/2	12	9.50
049005	50017	FH	350-1200	Station type	10 1/2 x 3 1/2 x 3	4 1/2	12	9.50
049006	50018	FH	350-1200	Iron covered	14 1/2 x 6 1/2 x 4 1/2	15 1/2	12	12.00
049007	50019	FH	350-1200	Wood covered	14 1/2 x 7 x 6 1/2	8 1/2	12	10.50
†11971	50088	CE-2	1200-2500	Station Type	11 x 4 1/2 x 3 1/2	8	12	11.25
†11972	50089	CE-2	1200-2500	Wood covered	18 x 8 1/2 x 6 1/2	13 1/2	12	12.25
†11973	50329	F-2S	*2500-3ph. Y	Station type	14 3/4 x 4 3/4 x 3 1/2	11 1/2	12	12.00
†11974	50330	F-2S	*2500-3ph. Y	Wood covered	20 1/2 x 8 1/2 x 6 1/2	15 1/2	12	13.25
049011	50091	F-2	2500-3500	Station type	14 3/4 x 4 3/4 x 3 1/2	11 1/2	12	12.00
049012	50092	F-2	2500-3500	Wood covered	20 1/2 x 8 1/2 x 6 1/2	15 1/2	12	13.25
049013	50093	CE-2	3500-5000	Station type	34 x 8 x 6 1/2	26 1/2	6	30.00
049014	50094	CE-2	3500-5000	Wood covered	33 x 13 x 15 1/2	49	6	32.00
†11975	50442	F-2S	†6600-S.P.	Station type	56 1/2 x 8 x 17 1/2	58	3	54.00
†11976	50443	F-2S	†6600-S.P.	Wood covered	56 1/2 x 13 x 15 1/2	69	3	58.00
049017	50097	CE-2	5000-7500	Station type	48 x 8 x 17 1/2	46	3	47.00
049018	50098	CE-2	5000-7500	Wood covered	49 x 13 x 15 1/2	59	3	51.00
049021	50101	F-2	7500-10000	Station type	73 x 8 x 18	71	3	72.00
049022	50102	F-2	7500-10000	Wood covered	71 x 13 x 15 1/2	93	3	77.00
049023	50103	F-2	10000-12500	Station type	89 x 8 x 18	89	3	90.00
049024	50104	F-2	10000-12500	Wood covered	87 1/2 x 13 x 15 1/2	116	3	96.00
049025	50105	F-2	12500-15000	Station type	106 x 8 x 18	106	3	108.00
049026	50106	F-2	12500-15000	Wood covered	104 x 13 x 15 1/2	139	3	115.00
049027	50107	F-2	15000-17500	Station type	122 x 8 x 18	123	3	126.00
049028	50108	F-2	17500-20000	Station type	139 x 8 x 18	140	3	144.00

\*Grounded neutral. †Railway circuit.

†The manufacture of older Type CE arrester for 1200-2500 volt A. C. service has been discontinued. Orders for this obsolete type will be filled with Type CE-2 Arrester unless advice to contrary is given on order.



C-H MOTOR STARTERS  
DIRECT CURRENT

Standard



Enclosed Standard

STANDARD DUTY MOTOR STARTERS  
With Low-voltage Protection

These starters are intended for use in starting direct current motors under normal full load conditions. The low-voltage spool is usually connected in series with the shunt field of the motor thus providing protection to the motor should the field circuit be opened while the motor is running.

H. P.	Trade No.	115 Volts Wt., Lbs. Boxed	Price Each	Trade No.	230 Volts Wt., Lbs. Boxed	Price Each	Trade No.	500 Volts Wt., Lbs. Boxed	Price Each
$\frac{1}{4}$	118368	10	\$5.10	118382	10	\$5.10	118398	10	\$5.50
$\frac{1}{2}$	118369	10	5.10	118383	10	5.10	118399	10	5.60
1	118370	10	6.30	118384	10	6.60	118400	10	7.00
2	118371	20	6.60	118385	20	6.60	118401	20	7.00
3	118372	20	7.20	118386	20	7.30	118402	20	7.10
4	118373	50	12.20	118387	20	7.30	118403	20	7.50
5	118374	50	12.20	118388	20	7.30	118404	20	7.50
$7\frac{1}{2}$	118375	50	13.20	118389	50	13.50	118405	50	13.30
10	118376	60	25.00	118390	50	15.50	118406	50	15.50
15	118377	60	26.00	118391	50	17.00	118407	50	16.50
20	118378	60	29.00	118392	60	29.00	118408	50	22.00
25	118379	110	47.30	118393	90	33.00	118409	90	36.00
30	118380	110	47.30	118394	90	33.00	118410	90	36.00
35	118381	110	47.30	118395	110	41.10	118411	90	36.20
40	.....	.....	.....	118396	110	41.10	118412	90	36.20
50	.....	.....	.....	118397	110	47.00	118413	110	45.00

ENCLOSED STANDARD DUTY MOTOR STARTERS  
With Low Voltage Protection

These starters are used for starting direct current motors under normal full load conditions. The low-voltage protection coil is usually connected in series with the shunt field of the motor, thus providing protection should the shunt field be opened while the motor is running. Starters will be shipped with the coil connected in this manner unless otherwise specified.

The smaller sizes can be furnished with the low-voltage coil connected in series with small series motors without increase in price. When necessary the coil may be arranged so that it can be connected directly across the line.

These starters are completely enclosed with the operating lever mounted on the outside of the case. "On" and "Off" legends are stamped on the cover with a corresponding pointer on the lever, indicating whether or not the motor is running.

$\frac{1}{4}$	174249	15	7.10	174263	15	7.10	174279	15	7.50
$\frac{1}{2}$	174250	15	7.10	174264	15	7.10	174280	15	7.60
1	174251	15	8.30	174265	15	8.60	174281	15	9.00
2	174252	30	10.60	174266	30	10.60	174282	30	11.00
3	174253	30	11.20	174267	30	11.30	174283	30	11.10
4	174254	75	17.30	174268	30	11.30	174284	30	11.50
5	174255	75	17.30	174269	30	11.30	174285	30	11.50
$7\frac{1}{2}$	174256	75	18.30	174270	75	18.60	174286	75	18.40
10	174257	90	30.50	174271	75	20.60	174287	75	20.60
15	174258	90	31.50	174272	75	22.10	174288	75	21.60
20	174259	90	34.50	174273	90	34.50	174289	75	27.10
25	174260	175	56.80	174274	160	39.00	174290	160	42.00
30	174261	175	56.80	174275	160	39.00	174291	160	42.00
35	174262	175	56.80	174276	175	50.60	174292	160	42.20
40	.....	.....	.....	174277	175	50.60	174293	160	42.20
50	.....	.....	.....	174278	175	56.50	174294	175	54.50

Write for Bulletins Nos. 2110 and 2111.



## C-H AUTO-TRANSFORMER STARTERS

### ALTERNATING CURRENT

#### For Polyphase Squirrel Cage Induction Motors



These auto-transformer starters are used to start polyphase squirrel cage induction motors driving centrifugal pumps, fans and machines with similar load characteristics or which may be started without load. Standard starters are connected to supply 65 per cent of line voltage to start but this may be changed to 50 or 80 per cent to suit the load conditions. The most suitable voltage is easily determined at the time of installation and connection made to the corresponding tap on the transformer.

Low voltage protection is standard on all starters. The low-voltage coil is moisture-proof and vacuum impregnated.

Inverse time limit overload protection is provided on standard starters. A duplex overload relay is mounted on the transformer assembly. The adjustment for different time intervals and tripping currents is readily made when the cover is opened.

The arrangement of these starters follows the generally accepted form of placing the oil immersed commutating mechanism at the bottom of the case below the transformers. This plan provides a better cooling effect than any other and makes examination and repair of contacts somewhat easier.

The transformers are liberally designed for starting service but the construction is such that one can be quickly replaced if occasion should ever require. The weight of the transformers is carried entirely on the supporting brackets, not by the case.

Simply raising the hinged cover gives ready access to the transformers, overload and low-voltage devices and motor and line terminals. Removing the oil pan for inspection or renewal of contacts is a one man job, made so by the simple form of combined holding clamp and handle used.

These starters are operated in the customary manner. The handle must be moved first to the starting position and then, when the motor has accelerated, quickly moved to the running position. It cannot be left in the starting position as it will return to the "off" position if released. An interlock prevents moving it directly to the running position from the "off" position. It may be locked in the "off" position to prevent unauthorized operation.

To stop the motor, the low-voltage device which holds the handle in the running position is operated by pulling a tripping device on the side of the case. Remote control of stopping may be obtained by including one or more Type S-1, Bulletin 10250 push button type master switches in the low-voltage coil circuit.

#### Three-phase or Two-phase, Three Wire, 60 Cycles, 110 Volts

H. P.	Trade No.	Mfrs. No.	Wt., Lbs. Boxed	Price Each	H. P.	Trade No.	Mfrs. No.	Wt., Lbs. Boxed	Price Each
5-10	174297	28004	225	\$86.00	20	196412	29506	300	\$143.00
15	174298	28006	300	87.00	25	174300	28010	300	162.00

#### 220 Volts

5-10	118879	28016	225	86.00	50	196413	28028	400	165.00
15-20	118880	29508	225	88.00	60	174316	28030	400	176.00
25	174312	28022	300	94.00	75	174317	28032	800	185.00
30	118881	28024	300	156.00	100	174318	28034	800	222.00
40	118882	29500	300	162.00	125	196414	29510	800	369.00

#### 440 Volts

5-10	118883	28040	225	86.00	50	196415	28052	400	120.00
15-20	118884	29512	225	88.00	60	196416	28054	400	159.00
25	118885	28046	300	94.00	75	196417	28056	700	166.00
30	118886	28048	300	113.00	100	196418	28058	700	185.00
40	118887	29502	300	117.00	125	196419	29514	700	212.00

#### 550 Volts

5-10	118888	28064	225	86.00	50	196420	28076	400	120.00
15-20	196408	29516	225	88.00	60	196421	28078	400	159.00
25	196409	28070	300	94.00	75	196422	28080	700	166.00
30	196410	28072	300	113.00	100	196423	28082	700	185.00
40	196411	29504	300	117.00	125	196424	29518	700	212.00

These starters are furnished for both 2 and 3-phase, 25, 33, 40, 50 and 60 cycles at 110, 220, 440, 550 and 2200 volts. For complete information write for Bulletin No. 9141.



## C-H MOTOR REGULATORS AND STARTERS



Motor Speed Regulator

MOTOR SPEED REGULATORS  
Direct Current with Low-voltage Protection

Intended for use only in decreasing the speed of the motor below normal by means of resistor in the armature circuit. Fan duty regulators are intended for use with motors driving a load on which the torque decreases with the speed and are designed to reduce the speed 50 per cent with 40 per cent of rated current flowing. Used with ventilating fans, centrifugal pumps, ice cream freezers, etc.

Constant torque regulators are intended for use with motors driving a constant torque load and are designed to reduce the speed 50 per cent with 80 per cent of rated current flowing. Used with printing presses, etc.

H. P.	Fan Duty Resistor						Constant Torque Resistor					
	115 Volts		230 Volts		500 Volts		115 Volts		230 Volts		500 Volts	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
1/4	26551	\$11.00	26566	\$11.00	26581	\$12.00	118747	\$11.00	118761	\$11.00	118778	\$12.00
1/2	26552	12.00	26567	12.00	26582	13.00	118748	12.00	118762	12.00	118779	13.00
1	26553	14.00	26568	14.00	26583	14.00	118749	20.00	118763	20.00	118780	20.00
1 1/2	26686	20.00	26688	20.00	26690	20.00	118750	22.00	118764	22.00	118781	22.00
2	26554	22.00	26569	22.00	26584	22.00	118751	28.00	118765	28.00	118782	28.00
3	26555	28.00	26570	28.00	26585	28.00	118752	33.00	118766	33.00	118783	33.00
4	26687	36.00	26689	36.00	26691	39.00	118753	39.00	118767	45.00	118784	45.00
5	26556	42.00	26571	42.00	26586	56.00	118754	45.00	118768	56.00	118785	56.00
7 1/2	26557	56.00	26572	56.00	26587	67.00	118755	56.00	118769	69.00	118786	69.00
10	26558	72.00	26573	72.00	26588	84.00	118756	72.00	118770	72.00	118787	95.00
15	26559	100.00	26574	89.00	26589	111.00	118757	100.00	118771	89.00	118788	122.00
20	26560	117.00	26575	100.00	26590	122.00	118758	128.00	118772	111.00	118789	134.00
25	26561	150.00	26576	145.00	26591	144.00	118759	150.00	118773	146.00	118790	145.00
30	26562	167.00	26577	156.00	26592	156.00	118760	167.00	118774	156.00	118791	156.00
35	26563	200.00	26578	200.00	26593	200.00			118775	200.00	118792	200.00
40			26579	222.00	26594	222.00			118776	222.00	118793	222.00
50			26580	278.00	26595	278.00			118777	278.00	118794	278.00

The contacts can be easily renewed from the front of the panel.  
Write for Bulletin No. 3110.



Compound Motor Starter

COMPOUND MOTOR STARTERS  
Direct Current with Low-voltage Protection

Intended for use with adjustable speed motors. The armature or starting resistor and the field regulating resistor are under the control of a single operating handle. Low-voltage protection is provided and the motor is always started under full field. The field regulating resistor is provided with from 15 to 21 speed setting points for any range of speed up to six times normal. The following prices are for the average conditions of speed range and motor design. The "summation watts" dissipated in the field regulating resistor is the product of the maximum field current multiplied by the minimum field current multiplied by the total field regulating resistance in ohms.

The resistor is moisture proof and well ventilated.

H. P.	Summation Watts	Trade No.	115 Volts		Trade No.	230 Volts		Trade No.	500 Volts	
			Wt., Lbs.	Price Each		Wt., Lbs.	Price Each		Wt., Lbs.	Price Each
1/4-2	160	118805	40	\$21.00	118816	40	\$21.00	118829	40	\$21.00
3	240	118806	40	22.00	118817	40	22.00	118830	40	27.00
4	240	118807	50	27.00	118818	40	22.00	118831	40	27.00
5	240	118808	50	27.00	118819	40	22.00	118832	40	27.00
7 1/2	400	118809	50	29.00	118820	50	29.00	118833	50	33.00
10	400	118810	100	42.00	118821	50	35.00	118834	50	39.00
15	400	118811	100	49.00	118822	50	38.00	118835	50	40.00
20	640	118812	100	51.00	118823	100	51.00	118836	50	51.00
25	640				118824	100	58.00	118837	125	58.00
30	640				118825	100	61.00	118838	125	61.00
35	640				118826	100	67.00	118839	125	67.00

Add \$2.50 list to above prices for each 100 summation watts, or fraction thereof, which must be dissipated in excess of the values given in the above tables.

Add \$2.50 list to the above prices for each 1000 ohms or fraction thereof, of field resistance required in excess of 2000 ohms. Write for Bulletin No. 2230.



# C-H AUTOMATIC STARTERS

## D. C. TIME LIMIT TYPE AUTOMATIC STARTERS



Time Limit  
Automatic Starter



Time Limit Automatic  
Starter with Knife  
Switches and Fuses

These automatic starters are used with motors driving pumps, fans, compressors or other classes of machinery where the load is likely to vary between wide limits and where automatic starting or remote control is desired.

The time of acceleration is controlled by an oil-filled dashpot which can be adjusted to suit the load conditions.

A non-freezing oil is used.

An enclosing panel will be provided at additional cost.

Write for Bulletins Nos. 6105 and 6110.

### WITHOUT KNIFE SWITCH AND FUSES

H. P.	115 Volts		230 Volts		550 Volts	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
$\frac{1}{4}$	189210	\$31.00	189219	\$32.00	189231	\$34.00
$\frac{1}{2}$	189211	32.00	189220	33.00	189232	35.00
1	189212	32.00	189221	33.00	189233	35.00
2	189213	32.00	189222	33.00	189234	35.00
3	189214	33.00	189223	34.00	189235	36.00
4	189215	68.00	189224	37.00	189236	39.00
5	189216	68.00	189225	37.00	189237	39.00
$7\frac{1}{2}$	189217	69.00	189226	74.00	189238	76.00
10	189218	70.00	189227	74.00	189239	78.00
15			189228	74.00	189240	80.00
20			189229	96.00	189241	109.00
25			189230	98.00	189242	114.00

### WITH KNIFE SWITCH AND FUSES

H. P.	115 Volts		230 Volts		550 Volts	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
$\frac{1}{4}$ -1	105869	\$55.00	105876	\$55.00	105884	\$59.00
2	105870	56.00	105877	56.00	105885	59.00
3	105871	57.00	105878	57.00	105886	60.00
4	105872	88.00	105879	60.00	105887	63.00
5	105873	90.00	105880	65.00	105888	65.00
$7\frac{1}{2}$	105874	93.00	105881	99.00	105889	100.00
10	105875	93.00	105882	100.00	105890	101.00
15			105883	102.00	105891	103.00
20			189243	122.00	189245	144.00
25			189244	122.00	189246	149.00



## C-H AUTOMATIC STARTERS

## A. C. ACROSS-THE-LINE TYPE

Across-the-Line Type  
Automatic Switch

## Triple Pole, Enclosed, with Mercury Type Overloads

These starters are used with standard squirrel cage motors, high torque squirrel cage motors and motors with internal starting arrangements. They connect the motors directly to the line. Connections may be made at any convenient point in the main circuit. Small control wires can then be used between the starter and the point of control.

**CONTROL.**—Starters can only be furnished arranged for three-wire control. A two-button push button master switch is included with the equipment.

Low-voltage protection is an inherent feature of the standard starter.

Inverse time limit overload protection is obtained through the use of a pair of mercury type overload relays. The motor is protected during both starting and running although the relays allow a large starting inrush or momentary overloads without tripping. Resetting of the relays, after the overload has subsided, is automatic. All parts are completely protected by a moulded enclosure, are unaffected by dust, dirt, etc., are interchangeable and easily renewed. The relays will furthermore retain their calibration at extreme temperatures and are unaffected by severe vibration.

## 25 OR 60 CYCLES, 3-PHASE OR 2-PHASE, 3-WIRE

H. P.	Wt., Lbs. Boxed	110 Volts		220 Volts		440-550 Volts	
		Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
1/4	60	.....	.....	.....	.....	.....	.....
1/2	60	201593	35.00	201599	35.00	.....	.....
3/4	60	201594	35.00	201600	35.00	.....	.....
1	60	201595	35.00	201601	35.00	201608	35.00
1 1/2	60	201596	35.00	201602	35.00	201609	35.00
2	60	201597	35.00	201603	35.00	201610	35.00
3	60	201598	35.00	201604	35.00	201611	35.00
4	60	.....	.....	201605	35.00	201612	35.00
5	60	.....	.....	201606	35.00	201613	35.00
7 1/2	60	.....	.....	201607	35.00	201614	35.00
10	60	.....	.....	.....	.....	201615	35.00

## 25 OR 60 CYCLES, SINGLE PHASE

H. P.	Wt., Lbs. Boxed	110 Volts		320 Volts		440-550 Volts	
		Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
1/4	60	201616	35.00	201622	35.00	201630	.....
1/2	60	201617	35.00	201623	35.00	201631	35.00
3/4	60	201618	35.00	201624	35.00	201632	35.00
1	60	201619	35.00	201625	35.00	201633	35.00
1 1/2	60	201620	35.00	201626	35.00	201634	35.00
2	60	201621	35.00	201627	35.00	201635	35.00
3	60	.....	.....	201628	35.00	201636	35.00
4	60	.....	.....	201629	35.00	201637	35.00
5	60	.....	.....	.....	.....	201638	35.00
7 1/2	60	.....	.....	.....	.....	.....	.....
10	60	.....	.....	.....	.....	.....	.....

For single-phase service, one of the poles is left dead.  
Write for Bulletin No. 9604.



# C-H MOTOR STARTERS

## DIRECT CURRENT MAGNETIC LOCKOUT SELF-STARTERS

Designed for the automatic or remote control of motors, driving pumps, compressors, fans, machine tools, or other heavy machinery. Write for Bulletins Nos. 6205, 6215 and 6225.



Without Magnetic Main Contactor  
(for use with Knife Switch or Double-pole Float Switch of suitable capacity)



With Magnetic Main Contactor



With Magnetic Main Contactor  
and Overload

### Without Magnetic Main Contactor—Without Knife Switch or Fuses

H. P.	115 Volts		230 Volts		500 Volts	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
1	118457	\$28.00	118471	\$28.00	118488	\$28.00
2	118458	29.00	118472	29.00	118489	29.00
3	118459	30.00	118473	30.00	118490	30.00
4	118460	49.00	118474	49.00	118491	49.00
5	118461	51.00	118475	51.00	118492	51.00
7½	118462	58.00	118476	61.00	118493	58.00
10	118463	61.00	118477	61.00	118494	60.00
15	118464	107.00	118478	82.00	118495	100.00
20	118465	107.00	118479	87.00	118496	100.00
25	118466	111.00	118480	89.00	118497	100.00
30	118467	167.00	118481	113.00	118498	109.00
35	118468	178.00	118482	124.00	118499	111.00
40	118469	224.00	118483	142.00	118500	160.00
50	118470	228.00	118484	151.00	118501	162.00
60	.....	.....	118485	240.00	118502	167.00
75	.....	.....	118486	272.00	118503	212.00
100	.....	.....	118487	318.00	118504	248.00

### With Magnetic Main Contactor—Without Knife Switch or Fuses

H. P.	115 Volts		230 Volts		500 Volts	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
1	118505	49.00	118522	49.00	118543	49.00
2	118506	50.00	118523	50.00	118544	50.00
3	118507	50.00	118524	50.00	118545	50.00
4	118508	71.00	118525	71.00	118546	71.00
5	118509	72.00	118526	72.00	118547	72.00
7½	118510	82.00	118527	82.00	118548	78.00
10	118511	87.00	118528	82.00	118549	80.00
15	118512	147.00	118529	111.00	118550	127.00
20	118513	147.00	118530	116.00	118551	129.00
25	118514	151.00	118531	118.00	118552	129.00
30	118515	232.00	118532	156.00	118553	136.00
35	118516	240.00	118533	162.00	118554	138.00
40	118517	288.00	118534	182.00	118555	200.00
50	118518	290.00	118535	187.00	118556	206.00
60	118519	564.00	118536	300.00	118557	210.00
75	118520	598.00	118537	336.00	118558	232.00
100	118521	696.00	118538	400.00	118559	294.00
125	.....	.....	118539	702.00	118560	426.00
150	.....	.....	118540	740.00	118561	464.00
175	.....	.....	118541	760.00	118562	482.00
200	.....	.....	118542	772.00	118563	490.00

### With Magnetic Main Contactor and Overload—Without Knife Switch or Fuses

H. P.	115 Volts		230 Volts		500 Volts	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
1	118564	65.00	118581	65.00	118602	65.00
2	118565	67.00	118582	67.00	118603	67.00
3	118566	67.00	118583	67.00	118604	67.00
4	118567	87.00	118584	87.00	118605	87.00
5	118568	89.00	118585	89.00	118606	89.00
7½	118569	102.00	118586	98.00	118607	93.00
10	118570	104.00	118587	98.00	118608	95.00
15	118571	169.00	118588	127.00	118609	144.00
20	118572	171.00	118589	133.00	118610	144.00
25	118573	173.00	118590	136.00	118611	147.00
30	118574	250.00	118591	178.00	118612	156.00
35	118575	260.00	118592	184.00	118613	158.00
40	118576	310.00	118593	200.00	118614	216.00
50	118577	314.00	118594	204.00	118615	218.00
60	118578	580.00	118595	322.00	118616	224.00
75	118579	616.00	118596	356.00	118617	264.00
100	118580	720.00	118597	416.00	118618	306.00
125	.....	.....	118598	720.00	118619	438.00
150	.....	.....	118599	760.00	118620	478.00
175	.....	.....	118600	798.00	118621	502.00
200	.....	.....	118601	810.00	118622	510.00



## C-H SELF-STARTING SPEED REGULATORS

## DIRECT CURRENT

## PUSH BUTTON OR LINE SWITCH CONTROL

## NON-REVERSE—COUNTER—E. M. F. TYPE

Speed Regulation, by Armature and Shunt Field Control

These self-starters are used to control motors driving platen (job) presses, folders, paper box making and similar machines where dynamic braking is not required. A magnetic main line contactor can be provided at additional cost of \$12.00.

Field Control, 10-20 Per Cent Armature Reduction 60 Per Cent



C. E. M. F. Self Starting  
Speed Regulator  
Non-reverse

H. P.	Trade No.	115 Volts		230 Volts	
		Wt. Lbs. Boxed	Price Each	Wt. Lbs. Boxed	Price Each
$\frac{1}{4}$ - $\frac{3}{8}$	174205	40	\$28.00	174210	\$28.00
$\frac{1}{2}$	174206	40	29.00	174211	29.00
$\frac{3}{4}$ - 1	174207	40	30.00	174212	30.00
1 $\frac{1}{2}$	174208	45	32.00	174213	32.00
2	174209	50	35.00	174214	35.00
2 $\frac{1}{2}$ - 3				174215	38.00

Field Control, 25-100 Per Cent; Armature Reduction 40 Per Cent

H. P.	Trade No.	115 Volts		230 Volts	
		Wt. Lbs. Boxed	Price Each	Wt. Lbs. Boxed	Price Each
$\frac{1}{4}$ - $\frac{3}{8}$	174216	40	35.00	174220	35.00
$\frac{1}{2}$ - $\frac{3}{4}$	174217	40	35.00	174221	35.00
1 - 1 $\frac{1}{2}$	174218	40	37.00	174222	37.00
2	174219	45	39.00	174223	39.00
2 $\frac{1}{2}$				174224	40.00
3				174225	42.00

## PUSH BUTTON CONTROL—WITH DYNAMIC BRAKING

Designed especially for the control of printing presses.

Speed Regulation, 20 to 100 per Cent Field Control

Speed Regulation, 25 to 100 per Cent Field Control						
	115 Volts		230 Volts		500 Volts	
H. P.	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
1½	119325	\$82.00	119335	\$82.00	119347	\$87.00
1	119326	84.00	119336	84.00	119348	89.00
1½	119327	86.00	119337	86.00	119349	91.00
2	119328	87.00	119338	87.00	119350	93.00
2½	119329	88.00	119339	88.00	119351	95.00
3	119330	89.00	119340	89.00	119352	96.00
4	119331	125.00	119341	115.00	119353	122.00
5	119332	125.00	119342	117.00	119354	125.00
7½	119333	150.00	119343	122.00	119355	131.00
10	119334	161.00	119344	128.00	119356	138.00
12½			119345	161.00	119357	172.00
15			119346	172.00	119358	193.00

Speed Regulation, 60 per Cent Armature and 10 to 50 per Cent Field

1	146460	96.00	146467	96.00	146476	100.00
2	146461	100.00	146468	100.00	146477	105.00
3	146462	104.00	146469	104.00	146478	110.00
4	146463	149.00	146470	121.00	146479	159.00
5	146464	153.00	146471	129.00	146480	166.00
7 $\frac{1}{2}$	146465	205.00	146472	165.00	146481	171.00
10	146466	215.00	146473	171.00	146482	183.00
12 $\frac{1}{2}$			146474	214.00	146483	220.00
15			146475	220.00	146484	244.00

Speed Regulation, 40 per Cent Armature and 55 to 100 per Cent Field

1	146485	94.00	146492	94.00	146501	98.00
2	146486	96.00	146493	96.00	146502	102.00
3	146487	99.00	146494	99.00	146503	106.00
4	146488	147.00	146495	140.00	146504	145.00
5	146489	153.00	146496	142.00	146505	148.00
7 $\frac{1}{2}$	146490	196.00	146497	152.00	146506	159.00
10	146491	208.00	146498	156.00	146507	166.00
12 $\frac{1}{2}$			146499	208.00	146508	214.00
15			146500	214.00	146509	220.00

A main line knife switch and fuses, mounted on the bottom of the controller so that the switch projects downward, can be furnished for 115 and 230 volts only at an additional charge.

An enclosing case can be provided at an additional price.

Write for Bulletins 6410, 6420 and 6425.



Designed for  
Push Button Control  
with Dynamic Braking



Designed for  
Push Button Control  
with Dynamic Braking



## C-H SWITCHES

### ALTERNATING CURRENT

#### PHASE FAILURE AND PHASE REVERSAL PROTECTIVE DEVICES

This device is designed to act as a relay in connection with a magnet switch controller for 2 or 3-phase motors, to perform the following functions:

1. If the supply voltage falls below 85 per cent of normal the relay opens the control circuit of the motor controller, and keeps it open until the line voltage returns to at least 90 per cent of normal.
2. In case of phase failure, caused by the opening of one of the supply lines at any point, the relay opens the control circuit, if the motor is under appreciable load, and keeps it open until the fault is corrected. If the load on the motor is very light, so that no harm would result from its running single-phase on account of the phase failure, the device may not operate until the load is increased or the motor shut down.
3. In case of phase reversal, the relay opens the control circuit and keeps it open until the phases are reconnected in the proper order.

The general principle of operation of this relay is similar to that of other induction disc wattmeter movement types.

The essential feature which makes its high sensitivity possible is a mercury switch. The opening and closing of the circuit is effected through a body of mercury making or breaking the circuit. The operation of the relay depends on the action of gravity on the small body of mercury, therefore it is imperative that the device be mounted securely in a location free from serious vibration. It will stand the inrush of any alternating current contactor whose sealed current is not greater than three amperes.

Transformers are used with 1100 and 2200-volt relays to reduce the voltage across the relay windings.

The arrangements of parts provides a very compact assembly. The standard apparatus can be used without modification on 3-phase or 2-phase, 3-wire or 4-wire circuits.

NOTE.—If the controller used has no magnetic contactor, one of proper size for the motor must be used with the relay.



Phase Failure Device  
with Cover Removed



Starting Switch  
Closed

#### 3-phase or 2-phase, 3 or 4-wire

Trade No.	Voltage	Cycles	Shipping Wt., Lbs.	Price Each
189776	110-550	60	15	\$35.00
189777	1100-2200	60	80	100.00
189778	1100-2200	25	80	125.00

Write for Bulletin No. 10081.

#### PANEL TYPE FUSED STARTING SWITCHES

##### For Polyphase Squirrel Cage Induction Motors

This is an enclosed fused starting panel intended for use in connecting standard 2-phase, 3-wire, and 3-phase squirrel cage induction motors directly to the line. It is so designed that the fuses are out of circuit when the motor is started, but are cut into the motor circuit automatically as soon as the operator removes his hand from the starting lever. The operator is not able to touch live contacts when renewing fuses, as access cannot be gained until they are disconnected from the line. Fuses are not furnished with the starter.

Maximum ratings with standard squirrel cage motors: 3 h. p., 110 volts; 5 h. p., 220 volts and 440-550 volts; with high torque squirrel cage motors: 4 h. p., 110 volts; 7½ h. p., 220 volts; 15 h. p., 440-550 volts.

Trade No.	Voltage	Shipping Wt., Lbs.	Price Each
88527	110-220	40	\$24.00
88528	440-550	40	26.00

Write for Bulletin No. 9116.



Starting Switch  
Panel Lowered



## C-H MOTOR STARTERS

ALTERNATING CURRENT, 25-60 CYCLES

Polyphase Motor  
Starter with Inverse  
Time Limit OverloadsPolyphase Motor  
Starter with Primary  
Resistor

## POLYPHASE MOTOR STARTERS

Across-the-line Type—Inverse Time Limit Overload Protection

Low Voltage Protection, Completely Enclosed

These switches are used to connect polyphase squirrel cage induction motors directly to the line. Inverse time limit overload protection is provided when running. Entirely satisfactory service will be obtained when using these switches with standard squirrel cage motors if the ratings given are not exceeded. The switch is provided with four poles.

## CAPACITY LIMITATIONS:

With standard squirrel cage motors.

110 V., 3 H. P.; 220 V., 7½ H. P.; 440-550 V., 15 H. P.

With high torque internal starting motors.

110 V., 7½ H. P.; 220 V., 15 H. P.; 440-550 V., 25 H. P.

Approx. Shipping Wt., Lbs.	110 Volts		220 Volts		440-550 Volts	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
55	174230	\$52.00	174232	\$52.00	174234	\$52.00

## Three-pole Single-step Primary Resistor

This switch is used for starting standard 3-phase squirrel cage motors, where it is not permissible to throw such motors directly across the line. A single step of resistance is provided in each of the three phases when starting.

H.P.	110 Volts			220 Volts			440-550 Volts		
	Trade No.	Wt., Lbs. Boxed	Price Each	Trade No.	Wt., Lbs. Boxed	Price Each	Trade No.	Wt., Lbs. Boxed	Price Each
1-2	174235	75	\$33.00	174239	75	\$33.00	174244	75	\$36.00
3-4	174236	80	35.00	174240	80	35.00	174245	80	37.00
5	174237	80	36.00	174241	85	37.00	174246	85	38.00
7½	174238	85	38.00	174242	85	38.00	174247	85	40.00
10				174243	90	40.00	174248	90	42.00

Write for Bulletins Nos. 9117 and 9118.

Single-phase  
Motor Starter

## SINGLE-PHASE MOTOR STARTERS

For Commutator Type Self-starting Motors

These starting rheostats have been especially designed to meet the requirements of single-phase commutator type self-starting motors. The resistor is of the ventilated type and is so arranged as to eliminate the effect of inductance. A strong spring coiled around the hub throws the lever to the off position should it be released in an intermediate position while starting the motor. Low-voltage protection is provided.

H.P.	110 Volts			220 Volts			H.P.	110 Volts			220 Volts		
	Trade No.	Wt., Lbs. Boxed	Price Each	Trade No.	Wt., Lbs. Boxed	Price Each		Trade No.	Wt., Lbs. Boxed	Price Each	Trade No.	Wt., Lbs. Boxed	Price Each
1	26185	30	\$13.00	102888	30	\$15.00	15	102883	125	\$52.00	102896	75	\$32.00
2	26186	30	14.00	102889	30	15.00	20	102884	125	52.00	102897	100	38.00
3	26187	50	19.00	102890	30	15.00	25	.....	.....	.....	102898	100	38.00
4	26188	50	20.00	102891	50	20.00	30	.....	.....	.....	102899	125	52.00
5	26189	50	21.00	102892	50	20.00	35	.....	.....	.....	102900	125	52.00
7½	26190	75	28.00	102893	60	22.00	40	.....	.....	.....	102901	125	52.00
10	102881	75	29.00	102894	60	23.00	..	.....	.....	.....	.....	.....	.....

Write for Bulletin No. 9110.



## C-H DRUM TYPE SWITCHES

### DRUM TYPE STAR-DELTA SWITCHES

For Three-phase Squirrel Cage Induction Motors

Designed for use with motors wound so that they can be connected in star for starting and delta for running. This reduces the voltage applied to each phase winding at starting to 58 per cent of full line voltage, while in the running position each phase of the stator winding has full line voltage impressed upon it. Oil-immersed drum type with three sets of fingers engaging with contacts upon the drum to effect the proper combinations of connections. It is necessary to pass through the "start" position to reach the "run" position so that it is impossible to pass directly into the "run" position when starting. When stopping, provision is made for passing directly to the "off" position from the "run" position, avoiding the necessity of passing through the "start" position again.



Star-Delta Switch

Maximum Rating with Squirrel Cage Motors  
10 H. P., 110 Volts; 20 H. P., 220 Volts; 25 H. P., 440 and 500 Volts

Trade No.	Type	Description	Wt., Lbs. without oil	Price Each
60634	A	With no-voltage release only	50	\$42.00
60635	B	With no-voltage release and fuses	60	58.00
60636	C	With no-voltage release and two inverse time element overload relays	80	98.00

Write for Bulletin No. 9401.

### DRUM TYPE STARTING SWITCHES

For Polyphase Squirrel Cage Induction Motors

Designed for use with polyphase squirrel cage motors which may be directly connected to the line for starting. They are of the oil-immersed drum type and have three sets of fingers engaging with contacts upon the drum to effect the proper connections. The motor is entirely disconnected when the switch is in the "off" position.

Maximum Rating with Standard Squirrel Cage Motors  
7½ H. P., 110 Volts; 15 H. P., 220 Volts; 20 H. P., 440 and 550 Volts  
Maximum Rating with High Torque Squirrel Cage Motors  
10 H. P., 110 Volts; 20 H. P., 220 Volts; 25 H. P., 440 and 550 Volts  
For Three-phase, and Two-phase, Three-wire Circuits

60637	A	With no-voltage release only	50	32.00
60638	B	With no-voltage release and fuses	60	48.00
60639	C	With no-voltage release and two inverse time element overload relays	80	88.00
For Two-phase, Four-wire Circuits				
60640	D	With no-voltage release only	50	32.00
60641	E	With no-voltage release and two inverse time element overload relays	80	88.00

The following information applies to all the switches listed above:

The fuse panel is for protection while the switch is in the running position only and the fuses are disconnected while starting.

The inverse time element overload relays furnished with Type C are completely described in Bulletin 10175.

These switches cannot be used on circuits with frequencies above 60 cycles.

Add 20 pounds if oil is to be furnished.

Add \$2.00 list for 440 or 550-volt switches.

Approximately 2 gallons of high-grade transformer oil is required to fill the oil tank. Prices above do not include this. Add \$2.00 list if oil is to be furnished with switch.

Write for Bulletin No. 9403.

### DRUM TYPE REVERSE SWITCHES

For High Torque Polyphase Squirrel Cage Induction Motors

Designed for use with motors which do not take more than 2½ to 3 times normal current when thrown across the line. They are three-pole and disconnect all three lines of a three-phase or two-phase, three-wire circuit. On a two-phase four-wire circuit, one lead is permanently connected to the motor. Maximum rating: 5 H. P., 110 volts; 7½ H. P., 220 to 550 volts.

MANUALLY OPERATED			ROPE OPERATED		
Trade No.	Ship. Wt. Lbs.	Price Each	Trade No.	Ship. Wt. Lbs.	Price Each
60642	40	\$33.00	60643	40	\$33.00

Write for Bulletins Nos. 9405 and 9406.



Reverse Switch—Rope Operated



## C-H DRUM TYPE STARTERS

## ALTERNATING CURRENT

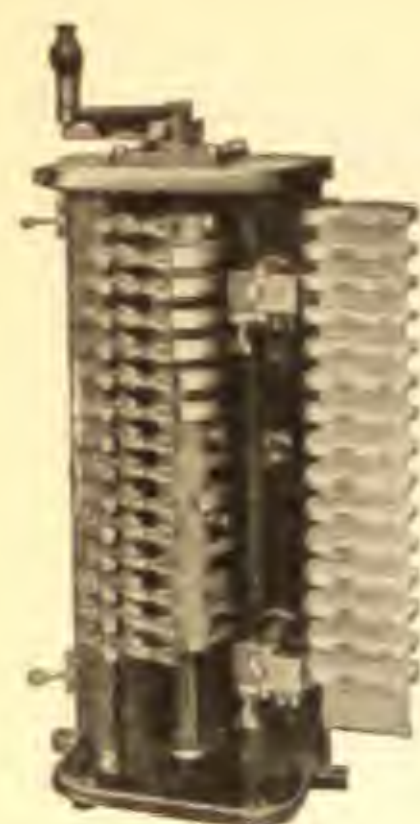
## WITHOUT PRIMARY SWITCH FOR SLIP-RING MOTORS

Designed for connection into the rotor circuit only. A suitable knife switch or circuit breaker must be installed to handle the primary circuit. Types J2S, K2S and L2S are for wall or floor mounting; Type MS for floor mounting only.

In case the motor is started not oftener than once every 30 minutes, double time for the cycle can be allowed. A 30 second duty resistor can then be used for one minute starting duty, a one minute duty resistor can be used for two minute starting duty and a two minute duty resistor can be used for four minute starting duty.

Shipping weight of drum in lbs.; Type J2S, 150; K2S, 200; L2S, 300; MS, 425. Shipping weight of resistor, 100 lbs. per frame.

Write for bulletin No. 9410 for complete information.



Drum with Cover  
Removed

## DRUM AND RESISTOR COMPLETE

Type	H. P.	With 30 Second Duty Resistor			With One Minute Duty Resistor			With Two Minute Duty Resistor		
		E. P. C. CLASS No.	No. Frames in Resistor	Price, Drum and Resistor	E. P. C. CLASS No.	No. Frames in Resistor	Price, Drum and Resistor	E. P. C. CLASS No.	No. Frames in Resistor	Price, Drum and Resistor
J2S	5	189828	1-Frame	\$106.00	189873	1-Frame	\$106.00	189914	1-Frame	\$106.00
J2S	7½	189829	1-Frame	106.00	189874	1-Frame	106.00	189915	1-Frame	106.00
J2S	10	189830	1-Frame	106.00	189875	1-Frame	106.00	189916	1-Frame	106.00
J2S	12½	189831	1-Frame	106.00	189876	1-Frame	106.00	189917	1-Frame	106.00
J2S	15	189832	1-Frame	106.00	189877	1-Frame	106.00	189918	1-Frame	112.00
J2S	20	189833	1-Frame	106.00	189878	1-Frame	106.00	189919	1-Frame	112.00
J2S	25	189834	1-Frame	106.00	189879	1-Frame	106.00	189920	1-Frame	113.00
J2S	30	189835	1-Frame	110.00	189880	1-Frame	110.00	189921	1-Frame	113.00
J2S	40	189836	1-Frame	110.00	189881	1-Frame	110.00	189922	2-Frames	128.00
J2S	50	189837	1-Frame	110.00	189882	1-Frame	113.00	189923	2-Frames	140.00
J2S	60	189838	1-Frame	110.00	189883	1-Frame	113.00	189924	2-Frames	140.00
K2S	5	189839	1-Frame	131.00	189884	1-Frame	131.00	189925	1-Frame	131.00
K2S	7½	189840	1-Frame	131.00	189885	1-Frame	131.00	189926	1-Frame	131.00
K2S	10	189841	1-Frame	131.00	189886	1-Frame	131.00	189927	1-Frame	131.00
K2S	12½	189842	1-Frame	131.00	189887	1-Frame	131.00	189928	1-Frame	131.00
K2S	15	189843	1-Frame	131.00	189888	1-Frame	131.00	189929	1-Frame	137.00
K2S	20	189844	1-Frame	131.00	189889	1-Frame	131.00	189930	1-Frame	137.00
K2S	25	189845	1-Frame	131.00	189890	1-Frame	131.00	189931	1-Frame	138.00
K2S	30	189846	1-Frame	135.00	189891	1-Frame	135.00	189932	1-Frame	138.00
K2S	40	189847	1-Frame	135.00	189892	1-Frame	135.00	189933	2-Frames	153.00
K2S	50	189848	1-Frame	135.00	189893	1-Frame	138.00	189934	2-Frames	165.00
K2S	60	189849	1-Frame	135.00	189894	1-Frame	138.00	189935	2-Frames	165.00
K2S	75	189850	1-Frame	135.00	189895	2-Frames	159.00	189936	3-Frames	192.00
K2S	100	189851	1-Frame	138.00	189896	2-Frames	165.00	189937	4-Frames	219.00
K2S	125	189852	2-Frames	153.00	189897	2-Frames	165.00	189938	4-Frames	219.00
K2S	150	189853	2-Frames	159.00	189898	3-Frames	192.00	189939	6-Frames	273.00
L2S	60	189854	1-Frame	182.00	189899	1-Frame	185.00	189940	2-Frames	212.00
L2S	75	189855	1-Frame	182.00	189900	2-Frames	206.00	189941	3-Frames	239.00
L2S	100	189856	1-Frame	185.00	189901	2-Frames	212.00	189942	4-Frames	266.00
L2S	125	189857	2-Frames	200.00	189902	2-Frames	212.00	189943	4-Frames	266.00
L2S	150	189858	2-Frames	206.00	189903	3-Frames	239.00	189944	6-Frames	320.00
L2S	175	189859	2-Frames	212.00	189904	3-Frames	239.00	189945	6-Frames	320.00
L2S	200	189860	2-Frames	212.00	189905	4-Frames	266.00	189946	7-Frames	347.00
L2S	225	189861	3-Frames	239.00	189906	4-Frames	266.00	189947	9-Frames	401.00
L2S	250	189862	3-Frames	239.00	189907	5-Frames	293.00	189948	9-Frames	401.00
L2S	300	189863	3-Frames	239.00	189908	5-Frames	293.00	189949	10-Frames	428.00
MS	175	189864	2-Frames	352.00	189909	3-Frames	379.00	189950	6-Frames	460.00
MS	200	189865	2-Frames	352.00	189910	4-Frames	406.00	189951	7-Frames	487.00
MS	225	189866	3-Frames	379.00	189911	4-Frames	406.00	189952	9-Frames	541.00
MS	250	189867	3-Frames	379.00	189912	5-Frames	433.00	189953	9-Frames	541.00
MS	300	189868	3-Frames	379.00	189913	5-Frames	433.00	189954	10-Frames	568.00
MS	350	189869	4-Frames	406.00						
MS	400	189870	4-Frames	406.00						
MS	450	189871	5-Frames	433.00						
MS	500	189872	6-Frames	460.00						

These prices do not include any wiring between drum and resistor.

C-H DR



Drum with  
Cover Removed

Type	H. P.	Trade No.	No. Frames in Resistor	Price, Drum and Resistor
J2S	5	189828	1-Frame	\$106.00
J2S	7½	189829	1-Frame	106.00
J2S	10	189830	1-Frame	106.00
J2S	12½	189831	1-Frame	106.00
J2S	15	189832	1-Frame	106.00
J2S	20	189833	1-Frame	106.00
J2S	25	189834	1-Frame	106.00
J2S	30	189835	1-Frame	110.00
J2S	40	189836	1-Frame	110.00
J2S	50	189837	1-Frame	110.00
J2S	60	189838	1-Frame	110.00
K2S	5	189839	1-Frame	131.00
K2S	7½	189840	1-Frame	131.00
K2S	10	189841	1-Frame	131.00
K2S	12½	189842	1-Frame	131.00
K2S	15	189843	1-Frame	131.00
K2S	20	189844	1-Frame	131.00
K2S	25	189845	1-Frame	131.00
K2S	30	189846	1-Frame	135.00
K2S	40	189847	1-Frame	135.00
K2S	50	189848	1-Frame	135.00
K2S	60	189849	1-Frame	135.00
K2S	75	189850	1-Frame	135.00
K2S	100	189851	1-Frame	138.00
K2S	125	189852	2-Frames	153.00
K2S	150	189853	2-Frames	159.00
L2S	60	189854	1-Frame	182.00
L2S	75	189855	1-Frame	182.00
L2S	100	189856	1-Frame	185.00
L2S	125	189857	2-Frames	200.00
L2S	150	189858	2-Frames	206.00
L2S	175	189859	2-Frames	212.00
L2S	200	189860	2-Frames	212.00
L2S	225	189861	3-Frames	239.00
L2S	250	189862	3-Frames	239.00
L2S	300	189863	3-Frames	239.00
MS	175	189864	2-Frames	352.00
MS	200	189865	2-Frames	352.00
MS	225	189866	3-Frames	379.00
MS	250	189867	3-Frames	379.00
MS	300	189868	3-Frames	379.00
MS	350	189869	4-Frames	406.00
MS	400	189870	4-Frames	406.00
MS	450	189871	5-Frames	433.00
MS	500	189872	6-Frames	460.00

Type  
J2R  
K2R  
L2R  
MSR

Write for



# C-H DRUM TYPE NON-REVERSING SPEED REGULATORS

ALTERNATING CURRENT

CONTINUOUS DUTY—WITHOUT PRIMARY CONTACTS  
FOR SLIP-RING MOTORS



Drum with  
Cover Removed

These regulators are designed for connection in the rotor circuit only. A suitable knife switch or circuit breaker must be installed to handle the primary circuit. The resistor is designed to give 50 per cent reduction in speed under full load current conditions. Types J2R, K2R and L2R are arranged for wall or floor mounting; Type MR is arranged for floor mounting only.

## DRUM AND RESISTOR COMPLETE

### Type J2R

Trade No.	H. P.	WT., LBS. Drum	WT., LBS. Resistor	Amount of Resistor	Price Drum and Resistor	Trade No.	H. P.	WT., LBS. Drum	WT., LBS. Resistor	Amount of Resistor	Price Drum and Resistor
161992	1	150	30	1-Unit box	\$98.00	161962	15	150	200	2-R18 Frames	\$126.00
161993	2	150	50	1-Unit box	100.00	161963	20	150	200	2-N34 Frames	128.00
161994	3	150	50	1-Unit box	106.00	161964	25	150	200	2-N34 Frames	128.00
161995	5	150	100	1-T42 Frame	119.00	161965	30	150	300	3-N34 Frames	149.00
161996	7½	150	100	1-T42 Frame	119.00	161966	35	150	300	3-N34 Frames	149.00
161961	10	150	100	1-T24 Frame	112.00	161997	40	150	300	3-N34 Frames	149.00
	12½	150	100	1-T24 Frame	112.00						

### Type K2R

161998	1	200	30	1-Unit box	123.00	161970	25	200	200	2-N34 Frames	153.00
161999	2	200	50	1-Unit box	125.00	161971	30	200	300	3-N34 Frames	174.00
189983	3	200	50	1-Unit box	131.00	161972	35	200	300	3-N34 Frames	174.00
189984	5	200	100	1-T24 Frame	137.00	161973	40	200	300	3-N34 Frames	174.00
189985	7½	200	100	1-T24 Frame	137.00	161975	50	200	300	3-L46 Frames	192.00
161967	10	200	100	1-T24 Frame	137.00	161976	60	200	600	6-O24 Frames	219.00
189986	12½	200	100	1-T24 Frame	137.00	161977	75	200	600	6-N34 Frames	237.00
161968	15	200	200	2-R18 Frames	151.00	189987	100	200	600	6-L46 Frames	273.00
161969	20	200	200	2-N34 Frames	153.00						

### Type L2R

161978	50	300	300	3-L46 Frames	215.00	161982	125	300	900	9-L46 Frames	377.00
161979	60	300	600	6-O24 Frames	242.00	161983	150	300	1200	12-L46 Frames	458.00
161980	75	300	600	6-N34 Frames	260.00	189988	175	300	1200	12-L46 Frames	458.00
161981	100	300	600	6-L46 Frames	296.00	189989	200	300	1500	15-L46 Frames	539.00

### Type MR

161984	100	425	600	6-L46 Frames	471.00	161990	225	425	1800	18-L46 Frames	795.00
161985	125	425	900	9-L46 Frames	552.00	161991	250	425	1800	18-L46 Frames	795.00
161986	150	425	1200	12-L46 Frames	633.00	189990	300	425	2100	21-L46 Frames	873.00
161987	175	425	1200	12-L46 Frames	633.00	189991	350	425	2400	24-L46 Frames	957.00
161988	200	425	1500	15-L46 Frames	714.00						

## DRUM LIMITATIONS

Type	Total Energy Must not Exceed:	Full Load Rotor Current per Ring must not Exceed:	Open Circuit Voltage between Slip Rings at Standstill must not Exceed:
J2R	40 H. P.	50 amperes	400 volts
K2R	100 H. P.	100 amperes	550 volts
L2R	200 H. P.	200 amperes	550 volts
2MR	350 H. P.	400 amperes	550 volts

Write for Bulletin No. 9470.



## C-H DRUM TYPE REVERSING SPEED REGULATORS

ALTERNATING CURRENT

CONTINUOUS DUTY—WITH PRIMARY SWITCH—FOR SLIP RING MOTORS

Drum with  
Cover Removed

The three-phase or two-phase, three-wire controller provides a double-pole primary combined line and reverse switch. The two-phase, four-wire controller includes in addition a single-pole primary switch for handling the second phase of the motor. In addition, all drums contain contacts for the control of the secondary starting and regulating resistor.

All drums are fitted with radial lever drive, but if specified rear-of-board bevel gear drive may be provided at additional cost and all types except M, N and O, may be fitted with either rope sheave or straight line lever drive. A removable top plate permits changing over from any one of the above drives to any other.

The normal full load secondary current or the voltage between the collector rings with the rotor stationary must not exceed the values given in the table of drum limitations.

The primary switches on Types M, N and O are immersed in oil.  
For Three-phase and Two-phase, Three-wire Circuits

H. P.	Amount of Resistor	Wt., Lbs. Drum	Boxed Resistor	110 Volts			220 Volts			440-550 Volts		
				Trade No.	Type	Price Each	Trade No.	Type	Price Each	Trade No.	Type	Price Each
1	1 Unit Box	125	30	162001	A2	\$75.00	162017	A2	\$75.00	162052	J2	\$101.00
2	1 Unit Box	125	50	162002	A2	77.00	162018	A2	77.00	162053	J2	103.00
3	1 Unit Box	125	50	162003	A2	83.00	162019	A2	83.00	162054	J2	109.00
5	1 Frame	125	100	162004	A2	96.00	162020	A2	96.00	162055	J2	122.00
7½	1 Frame	125	100				162023	A2	96.00	162056	J2	122.00
5	1 Frame	200	100	162006	K2	142.00	162024	K2	142.00	162057	K2	142.00
7½	1 Frame	200	100	162007	K2	142.00	162025	K2	142.00	162058	K2	142.00
10	1 Frame	200	100	162008	K2	142.00	162026	K2	142.00	162059	K2	142.00
12½	1 Frame	200	100	162090	K2	142.00	162091	K2	142.00	162092	K2	142.00
15	2 Frames	200	200	162009	K2	156.00	162027	K2	156.00	162060	K2	156.00
20	2 Frames	200	200	162010	K2	158.00	162028	K2	158.00	162063	K2	158.00
25	2 Frames	200	200				162029	K2	158.00	162064	K2	158.00
30	3 Frames	200	300				162030	K2	179.00	162065	K2	179.00
35	3 Frames	200	300				162031	K2	179.00	162066	K2	179.00
40	3 Frames	200	300				162032	K2	179.00	162067	K2	179.00
50	3 Frames	200	300							162068	K2	197.00
25	2 Frames	325	200	162011	L2	211.00	162033	L2	211.00	162069	L2	211.00
30	3 Frames	325	300	162012	L2	232.00	162034	L2	232.00	162070	L2	232.00
35	3 Frames	325	300	162013	L2	232.00	162035	L2	232.00	162071	L2	232.00
40	3 Frames	325	300				162036	L2	232.00	162072	L2	232.00
50	3 Frames	325	300				162037	L2	250.00	162073	L2	250.00
60	6 Frames	325	600				162038	L2	277.00	162074	L2	277.00
75	6 Frames	325	600				162039	L2	295.00	162075	L2	295.00
*50	3 Frames	425	300	162014	N	417.00	162040	M	397.00	162076	M	397.00
*60	6 Frames	425	600	162015	N	444.00	162043	M	424.00	162077	M	424.00
*75	6 Frames	425	600	162016	N	462.00	162044	M	442.00	162078	M	442.00
*100	6 Frames	425	600				162046	N	498.00	162080	M	478.00
*125	9 Frames	425	900				162047	N	579.00	162083	M	559.00
*150	12 Frames	425	1200				162048	N	660.00	162084	M	640.00
*100	6 Frames	525	600				162049	O	582.00	162085	O	582.00
*125	9 Frames	525	900				162050	O	663.00	162086	O	663.00
*150	12 Frames	525	1200				162051	O	744.00	162087	O	744.00
*175	12 Frames	525	1200							162088	O	744.00
*200	15 Frames	525	1500							162089	O	825.00

\*If oil is to be furnished, add \$7.00 to list price, and 80 pounds to weight of drum.

C-H

CONT

A

1 1 Un

2 1 Un

3 1 Un

5 1 Fr

7½ 1 Fr

5 1 Fr

7½ 1 Fr

10 1 Fr

12½ 1 Fr

15 2 Fr

20 2 Fr

25 2 Fr

30 3 Fr

35 3 Fr

40 3 Fr

50 3 Fr

55 3 Fr

60 3 Fr

75 6 Fr

80 6 Fr

90 6 Fr

100 6 Fr

125 9 Fr

150 12 Fr

175 12 Fr

200 15 Fr

\*If oil is to

Type

A2

J2 and JJ2

K2 and KK2

Write for



# C-H DRUM TYPE REVERSING SPEED REGULATORS

## ALTERNATING CURRENT

### CONTINUOUS DUTY—WITH PRIMARY SWITCH—FOR SLIP-RING MOTORS

For 2-phase, 4-wire Circuits

H. P.	Amount of Resistor	Wt., Lbs. Boxed Drum Resistor	110 Volts			Drum and Resistor 220 Volts			440-550 Volts		
			Trade No.	Type	Price Each	Trade No.	Type	Price Each	Trade No.	Type	Price Each
1	1 Unit Box	125	30	162108 A2	\$75.00	162126 A2		\$75.00	162160 JJ2		\$142.00
2	1 Unit box	125	50	162109 A2	77.00	162127 A2		77.00	162163 JJ2		144.00
3	1 Unit box	125	50	162110 A2	83.00	162128 A2		83.00	162164 JJ2		150.00
5	1 Frame	125	100	162111 A2	96.00	162129 A2		96.00	162165 JJ2		163.00
7½	1 Frame	125	100			162130 A2		96.00	162166 JJ2		163.00
5	1 Frame	225	100	162113 KK2	177.00	162131 KK2		177.00	162167 KK2		177.00
7½	1 Frame	225	100	162114 KK2	177.00	162132 KK2		177.00	162168 KK2		177.00
10	1 Frame	225	100	162115 KK2	177.00	162133 KK2		177.00	162169 KK2		177.00
12½	1 Frame	225	100	162118 KK2	177.00	162199 KK2		177.00	162200 KK2		177.00
15	2 Frames	225	200	162116 KK2	191.00	162134 KK2		191.00	162170 KK2		191.00
20	2 Frames	225	200	162117 KK2	193.00	162135 KK2		193.00	162171 KK2		193.00
25	2 Frames	225	200			162136 KK2		193.00	162172 KK2		193.00
30	3 Frames	225	300			162137 KK2		214.00	162173 KK2		214.00
35	3 Frames	225	300			162138 KK2		214.00	162174 KK2		214.00
40	3 Frames	225	300			162139 KK2		214.00	162175 KK2		214.00
50	3 Frames	225	300			162140			162176 KK2		232.00
25	2 Frames	350	200	162118 LL2	277.00	162143 LL2		277.00	162177 LL2		277.00
30	3 Frames	350	300	162119 LL2	298.00	162144 LL2		298.00	162178 LL2		298.00
35	3 Frames	350	300	162120 LL2	298.00	162145 LL2		298.00	162179 LL2		298.00
40	3 Frames	350	300			162146 LL2		298.00	162180 LL2		298.00
50	3 Frames	350	300			162147 LL2		316.00	162183 LL2		316.00
60	6 Frames	350	600			162148 LL2		343.00	162184 LL2		343.00
75	6 Frames	350	600			162149 LL2		361.00	162185 LL2		361.00
*50	3 Frames	425	300	162123 N	417.00	162150 M		397.00	162186 M		397.00
*60	6 Frames	425	600	162124 N	444.00	162151 M		424.00	162187 M		424.00
*75	6 Frames	425	600	162125 N	462.00	162152 M		442.00	162188 M		442.00
*100	6 Frames	425	600			162154 N		498.00	162190 M		478.00
*125	9 Frames	425	900			162155 N		579.00	162191 M		559.00
*150	12 Frames	425	1200			162156 N		660.00	162192 M		640.00
*100	6 Frames	525	600			162157 O		582.00	162193 O		582.00
*125	9 Frames	525	900			162158 O		663.00	162194 O		663.00
*150	12 Frames	525	1200			162159 O		744.00	162195 O		744.00
*175	12 Frames	525	1200						162196 O		744.00
*200	15 Frames	525	1500						162197 O		825.00

\*If oil is to be furnished, add \$7.00 to list price, and 80 lbs. to weight of drum.

## DRUM LIMITATIONS

Type	Total Energy must not Exceed:	Full Load Rotor Current per Ring must not Exceed:	Open Circuit Voltage Between Slip Rings at Standstill must not Exceed:	Type	Total Energy must not Exceed:	Full Load Rotor Current per Ring must not Exceed:	Open Circuit Voltage Between Slip Rings at Standstill must not Exceed:
A2	7½ H. P.	40 amperes	150 volts	L2 and LL2	75 H. P.	200 amperes	350 volts
J2 and JJ2	7½ H. P.	50 amperes	200 volts	M and N	150 H. P.	200 amperes	500 volts
K2 and KK2	50 H. P.	100 amperes	280 volts	O	200 H. P.	400 amperes	500 volts

Write for Bulletin No. 9475.



## C-H ENCLOSED SELF-STARTERS

ALTERNATING CURRENT—25 TO 60 CYCLES

PRIMARY RESISTOR TYPE

Time Limit Acceleration—For Single-phase Self-starting or Polyphase Squirrel Cage Motors



Enclosing Case Removed

These self-starters are designed for use with single-phase self-starting motors or with poly-phase squirrel cage motors, but with the latter type only when the motor is to drive a centrifugal pump or other machine with such load characteristics that the starting torque required does not exceed that corresponding to 60 per cent of normal line voltage applied to the motor terminals.

Resistor in the primary circuit of the motor is used to reduce the voltage for starting. One step of resistor is employed in each of two phases only for either two or three-phase motors.

Two double-pole magnet switches and a solenoid operated dashpot timing relay are provided. One switch connects the motor and starting resistor to the supply lines; the other short-circuits this resistor after a definite time interval, determined by the setting of the relay.

They may be controlled by single-pole knife or snap switches, float switches, or by two push buttons, one normally open and one normally closed. If they are to be used on pressure tank systems, diaphragm or gauge type pressure or vacuum regulators may be used.

The sheet metal enclosing case completely encloses the starter. Provision is made for conduit wiring.

## FOR POLYPHASE MOTORS

H. P.	110 Volts			220 Volts			440 Volts			550 Volts		
	Trade No.	Wt., Lbs.	Price Each	Trade No.	Wt., Lbs.	Price Each	Trade No.	Wt., Lbs.	Price Each	Trade No.	Wt., Lbs.	Price Each
5	094832	140	\$124.00	094840	140	\$129.00	094848	140	\$131.00	094823	140	\$128.00
7½	094833	165	127.00	094841	140	134.00	094849	140	136.00	094824	140	136.00
10	094834	165	141.00	094842	165	139.00	094850	165	136.00	094825	140	143.00
15	094835	195	144.00	094843	195	145.00	094851	195	142.00	094826	165	148.00
20	094836	300	238.00	094844	195	147.00	094852	220	156.00	094827	250	162.00
25	094837	300	238.00	094845	220	149.00	094853	220	157.00	094828	225	162.00
30	094857	300	243.00	094846	220	150.00	094854	250	158.00	094829	250	162.00

## FOR SINGLE-PHASE SELF-STARTING MOTORS

5	82460	140	122.00	82464	140	123.00	82472	140	122.00	82480	140	122.00
7½	82461	165	136.00	82465	140	123.00	82473	140	127.00	82481	140	127.00
10	82462	275	225.00	82466	165	128.00	82474	140	129.00	82482	140	130.00
15	82463	275	230.00	82467	195	141.00	82475	165	141.00	82483	165	135.00
20	094858	275	233.00	82468	195	145.00	82476	195	144.00	82484	195	150.00
25	.....	.....	.....	82469	300	234.00	82477	220	147.00	82485	195	150.00
30	.....	.....	.....	82470	300	236.00	82478	220	148.00	82486	195	150.00

For inverse time limit overload protection, add \$30.00.

Prices will be quoted upon application for these starters without an enclosing case.

Write for Bulletin No. 9605.



# C-H AUTOMATIC STARTERS

ALTERNATING CURRENT—25 TO 60 CYCLES

## SECONDARY RESISTOR TYPE SELF-STARTERS

For Low Tension Circuits—Time Limit Acceleration—  
For Polyphase Slip-ring Motors where High Starting  
Torque is Required

These self-starters are designed for the automatic or remote control of polyphase slip-ring motors, driving reciprocating pumps, air compressors, etc. They consist of a double-pole magnet primary contactor and one or more secondary contactors which automatically cut out the resistor in the secondary circuit under the control of a gravity dashpot.

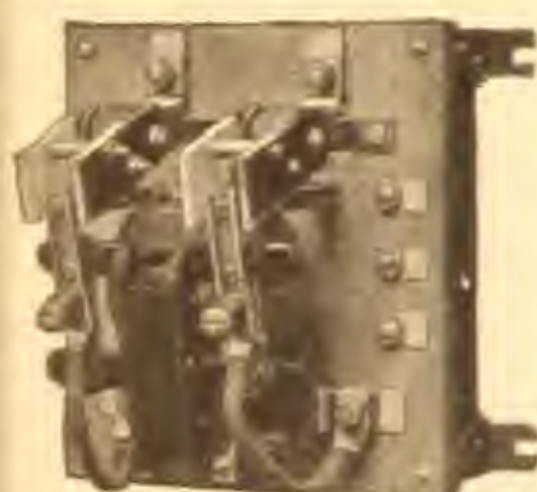
They may be controlled by single-pole knife or snap switches, float switches, or by two push buttons, one normally open and one normally closed. If they are to be used on pressure tank systems, diaphragm or gauge type pressure or vacuum regulators may be used. Prices for larger capacity starters, or for the addition of enclosing panels may be had upon application.

Write for Bulletin No. 9633.



Secondary Resistor Type

H.P.	Secondary Current of Motor	Wt., Lbs. Boxed	110 Volts		220 Volts		440-550 Volts	
			Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
5	40	100	196378	\$104.00	196388	\$104.00	196398	\$104.00
5	100	120	196379	110.00	196389	110.00	196399	110.00
7½	40	110	196380	108.00	196390	108.00	196400	108.00
7½	100	120	196381	112.00	196391	112.00	196401	112.00
10	40	110			196392	110.00	196402	110.00
10	100	120	196383	114.00	196393	114.00	196403	114.00
15	50	115			196394	121.00	196404	121.00
15	100	125	196385	133.00	196395	133.00	196405	133.00
20	50	120					196406	124.00
20	100	125	196387	134.00	196397	134.00	196407	134.00
25	100	175	118737	172.00				
25	100	135			118740	138.00	118744	138.00
25	200	175			118741	192.00	118745	192.00
30	100	175	118738	176.00				
30	100	140			118742	141.00	118746	141.00
30	200	250	118739	247.00				
30	200	175			118743	196.00	199109	196.00



Across-the-Line Type

## ACROSS-THE-LINE TYPE SELF-STARTERS

For Single-phase Self-starting or Polyphase Squirrel Cage Motors

These starters are designed for use with single-phase self-starting or polyphase motors which may be thrown directly across the line. Each consists of a double-pole magnet switch mounted on a slate panel and supported on a suitable pressed steel wall frame.

They may be controlled by single-pole knife or snap switches, float switches, or by two push buttons, one normally open and one normally closed. If they are to be used on pressure tank systems, diaphragm or gauge type pressure or vacuum regulators may be used.

H.P.	110 Volts			220 Volts			440-550 Volts		
	Trade No.	Wt., Lbs. Boxed	Price Each	Trade No.	Wt., Lbs. Boxed	Price Each	Trade No.	Wt., Lbs. Boxed	Price Each
1	118705	25	\$19.00	118713	25	\$19.00	118721	30	\$19.00
2	118706	25	19.00	118714	25	19.00	118722	30	19.00
3	118707	30	19.00	118715	25	19.00	118723	30	22.00
4	118708	30	22.00	118716	30	22.00	118724	30	22.00
5	118709	30	22.00	118717	30	22.00	118725	30	22.00
7½	118710	40	29.00	118718	30	22.00	118726	30	22.00
10	118711	40	29.00	118719	40	29.00	118727	30	22.00
15	118712	75	78.00	118720	40	29.00	118728	40	29.00

The prices and weights given above do not include control apparatus.  
Prices will be quoted upon application for these starters with an enclosing panel.  
Write for Bulletin No. 9600.



## C-H REGULATORS

DIAPHRAGM TYPE PRESSURE REGULATORS  
FOR PRESSURES ABOVE ATMOSPHERIC ONLY

Designed primarily to act as a pilot switch in connection with a motor self-starter. They may also be used as a single-pole switch for throwing across the line a small direct or single-phase alternating current motor of a capacity not greater than  $\frac{1}{4}$  horsepower, 110 volts, or  $\frac{1}{2}$  horsepower, 220-550 volts.

These regulators open the switch at high pressure and close it at low. For complete information, write for Bulletins Nos. 10001, 10003 and 10004.



Diaphragm Type  
Pressure Regulator  
Single-pole  
Cover Removed



Pressure Regulator  
Double-pole  
Cover Removed



Diaphragm Type  
Vacuum Regulator  
Cover Removed



Gauge Type Regulator

## Single-pole

Trade No.	Type	Pressure Range Lbs. per Sq. In.	Ship. Wt., Lbs.	Price Each
118995	A	1 $\frac{1}{2}$ to 14	29	\$19.00
118996	B	5 to 60	18	14.00
118997	C	6 to 115	18	14.00
118998	D	7 to 175	18	14.00

## Double-pole

These double-pole diaphragm regulators handle motor circuits direct without an additional magnetic switch. They may be used with direct current motors up to 1 horsepower, 115, 230 and 500 volts, and alternating current motors, single-phase, 2 horsepower, 110 volts, 4 horsepower, 220 volts, 5 horsepower, 440 and 550 volts, and two and three-phase alternating current motors, 3 horsepower, 110 volts, 5 horsepower, 220, 440 and 550 volts.

105857	A	10 to 95	30	15.50
105864	B	10 to 150	30	15.50
119004	C	5 to 60	30	13.00

## DIAPHRAGM TYPE VACUUM REGULATORS

Designed to act similar to above single-pole regulators. They open the switch at high vacuum and close it at low.

For complete information write for Bulletin No. 10005.

## Single-pole

Trade No.	Type	Vacuum Range Inches of Mercury	Ship. Wt., Lbs.	Price Each
119001	A	3 to 9	30	\$14.00
119002	B	3 to 18	30	14.00
119003	C	3 to 28	30	14.00

GAUGE TYPE PRESSURE REGULATORS  
FOR PRESSURES ABOVE AND BELOW ATMOSPHERIC  
WITH RELAY

Designed to handle solenoid currents only and must always be used in connection with a suitable self-starter. The gauges are furnished with dials reading from 0 to 25, 50, 100, 150 and 250 pounds per square inch above atmospheric pressure, and from 0 to 30 inches of mercury below atmospheric.

The closest practicable setting of the two contact points is 5 per cent of the maximum pressure shown on the dial of the gauge used. The lowest reliable pressure setting is 5 pounds for the 25-pound gauge, and 10 per cent of the maximum pressure shown on the dial for the other capacities. When properly adjusted, the regulator is reliable and accurate.

Trade No.	Approx. Ship. Wt., Lbs.	Price Each
118999	40	\$40.00

For information and prices on higher capacity regulators and ammonia regulators, write for Bulletin No. 10013.



Drum with  
Cover Removed

Trade No.

10760

10761

10762

10763

10764

10765

10766

10833

10767

10768

10769

10770

10771

10772

10773

10808

10809

10810

10811

10812

10813

10814

10836

10815

10816

10817

10818

10819

10820

10821

STA

115 Vol

Trade No.

013926

013927

013928

013929

Price and weight  
For complete



## C-H REVERSIBLE DRUM CONTROLLERS

FOR CRANES AND HOISTS—50 PER CENT SPEED REDUCTION



Drum with  
Cover Removed

These controllers are designed for use with direct current motors operating cranes, hoists or apparatus requiring similar control. The resistance provided is of intermittent capacity and will give 50 per cent speed reduction under average load conditions.

The drums are fitted with radial lever drive, but if specified, may be fitted with either rope sheave, straight line lever, or rear-of-board bevel gear drive, at additional cost. A removable top plate on all sizes except Type D, permits changing over from any one of the above drives to any other.

Either series or shunt-wound solenoid-operated brakes can be used with these controllers.

If it is desired to limit the travel in either or both directions, a magnetic contactor panel may be used with Types A, B and C drums. The magnetic contactor panel regularly furnished with Type D drums may be employed in a like manner and avoid the necessity of buying additional equipment.

### STANDARD DUTY—DRUM AND RESISTOR COMPLETE

H. P.	Trade No.	115 Volts			Trade No.	230 Volts			Trade No.	500 Volts		
		Type	Wt. Lbs.	Price Each		Type	Wt. Lbs.	Price Each		Type	Wt. Lbs.	Price Each
1	10760	A2	165	\$109.00	10774	A2	165	\$108.00	10791	A2	165	\$108.00
2	10761	A2	165	110.00	10775	A2	165	110.00	10792	A2	165	110.00
3	10762	A2	165	114.00	10776	A2	165	114.00	10793	A2	165	112.00
4	10763	A2	225	118.00	10777	A2	165	115.00	10794	A2	165	115.00
5	10764	A2	225	119.00	10778	A2	185	121.00	10795	A2	185	120.00
7½	10765	B2	275	149.00	10779	A2	225	124.00	10796	A2	185	129.00
10	10766	B2	275	149.00	10780	A2	250	121.00	10797	A2	185	136.00
12½	10833	B2	275	149.00	10834	A2	250	121.00	10835	A2	225	140.00
15	10767	C2	425	208.00	10781	B2	300	151.00	10798	A2	235	142.00
20	10768	C2	425	208.00	10782	B2	275	149.00	10799	B2	425	174.00
25	10769	C2	425	208.00	10783	B2	275	149.00	10800	B2	425	174.00
30	10770	D	900	514.00	10784	C2	425	208.00	10801	B2	425	176.00
35	10771	D	900	535.00	10785	C2	525	229.00	10802	B2	425	176.00
40	10772	D	900	535.00	10786	C2	525	229.00	10803	B2	425	176.00
50	10773	D	900	535.00	10787	C2	525	229.00	10804	C2	525	229.00
60					10788	D	900	535.00	10805	C2	525	229.00
75					10789	D	1000	556.00	10806	D	1000	556.00
100					10790	D	1100	577.00	10807	D	1100	577.00

### STEEL MILL DUTY—DRUM AND RESISTOR COMPLETE

1	10808	A2	165	109.00	10822	A2	165	108.00	013909	A2	165	108.00
2	10809	A2	165	111.00	10823	A2	165	111.00	013910	A2	165	110.00
3	10810	A2	165	116.00	10824	A2	165	116.00	013911	A2	165	115.00
4	10811	A2	225	122.00	10825	A2	185	121.00	013912	A2	185	120.00
5	10812	A2	225	122.00	10826	A2	325	144.00	013913	A2	185	125.00
7½	10813	B2	275	152.00	10827	A2	325	146.00	013914	A2	225	137.00
10	10814	B2	275	152.00	10828	A2	225	121.00	013915	A2	235	150.00
12½	10836	B2	275	152.00	10837	A2	225	121.00	10838	A2	425	167.00
15	10815	C2	425	211.00	10829	B2	275	152.00	013916	A2	425	167.00
20	10816	C2	425	211.00	10830	B2	275	152.00	013917	B2	375	174.00
25	10817	C2	525	235.00	10831	B2	375	176.00	013918	B2	375	175.00
30	10818	D	900	541.00	10832	C2	525	235.00	013919	B2	375	176.00
35	10819	D	900	541.00	013903	C2	525	235.00	013920	B2	375	176.00
40	10820	D	900	541.00	013904	C2	525	235.00	013921	B2	375	176.00
50	10821	D	1000	565.00	013905	C2	625	259.00	013922	C2	625	259.00
60					013906	D	1000	565.00	013923	C2	625	259.00
75					013907	D	1100	589.00	013924	D	1100	589.00
100					013908	D	1200	613.00	013925	D	1200	613.00

### STANDARD DUTY OR STEEL MILL DUTY—DRUM ONLY

Type	115 Volts			230 Volts			500 Volts			Finger Size Inches	Cap. Amps.	No. of Speeds Ea. Way	Wt. Lbs. Boxed	Price Each
	Trade No.	Cap. H. P.	Trade No.	Cap. H. P.	Trade No.	Cap. H. P.	Trade No.	Cap. H. P.	Trade No.					
A2	013926	1-5	013930	1-12½	013934	1-15	1-15	1-15	1-15	½	50	6	125	\$98.00
B2	013927	7½-12½	013931	15-25	013935	20-40	20-40	20-40	20-40	¾	100	7	175	128.00
C2	013928	15-25	013932	30-50	013936	50-60	50-60	50-60	50-60	1	200	9	325	187.00
D	013929	30-50	013933	60-100	013937	75-100	75-100	75-100	75-100	2-1	400	9	700	493.00

Price and weight of Type D drums include magnetic contactor panel.  
For complete information write for Bulletin No. 5300.



## C-H SEMI-MAGNETIC ELEVATOR CONTROLLERS

## FOR SLOW SPEED ELEVATORS

## DIRECT CURRENT

These controllers consist of a magnetic main contactor, an automatic starter of the dashpot type and a separately mounted reversing switch. Controllers for heavy duty service have a series of contactors controlled in succession by a timing relay. Operation from car may be by wheel, lever or rope. Carbon to copper arcing contacts are employed.



For Moderate Duty Direct Current Motors



For Heavy Duty Direct Current Motors



For High Torque Squirrel Cage Motors



For Slip-ring Motors

## For Moderate Duty Elevators

H.P.	115 Volts			230 Volts			500 Volts		
	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each
1	199120	150	\$110.00	199128	150	\$110.00	199138	150	\$110.00
2	199121	150	110.00	199129	150	110.00	199139	150	110.00
3	199122	150	120.00	199130	150	120.00	199140	150	120.00
4	199123	150	120.00	199131	150	120.00	199141	150	120.00
5	199124	150	120.00	199132	150	120.00	199142	150	120.00
7½	199125	200	150.00	199133	150	130.00	199143	150	130.00
10	199126	250	150.00	199134	200	155.00	199144	200	170.00
15	199127	325	235.00	199135	250	160.00	199145	250	175.00
20				199136	325	195.00	199146	325	205.00
25				199137	350	205.00	199147	350	215.00

## For Heavy Duty Elevators

5	199148	200	180.00	199154	200	180.00	199163	200	180.00
7½	199149	200	180.00	199155	200	185.00	199164	200	185.00
10	199150	200	180.00	199156	200	185.00	199165	200	195.00
15	199151	300	305.00	199157	200	190.00	199166	200	205.00
20	199152	300	315.00	199158	300	310.00	199167	300	320.00
25	199153	300	320.00	199159	300	325.00	199168	300	320.00
30				199160	300	325.00	199169	300	330.00
35				199161	300	325.00	199170	300	330.00
40				199162	300	330.00	199171	300	340.00

## ALTERNATING CURRENT

These controllers consist of a primary magnet switch and a separate drum reverse switch. Designed primarily for connecting high torque polyphase squirrel cage or slip ring motors directly to the line. Operation from the car may be by wheel, lever or rope, as desired. Carbon to copper contacts are employed.

## For High Torque Squirrel Cage Motors

H.P.	110 Volts			220 Volts			440-550 Volts		
	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each	Trade No.	Ship. Wt., Lbs.	Price Each
1	199172	110	\$75.00	199179	110	\$75.00	199188	110	\$75.00
2	199173	110	75.00	199180	110	75.00	199189	110	75.00
3	199174	110	75.00	199181	110	75.00	199190	110	90.00
5	199175	110	90.00	199182	110	90.00	199191	110	90.00
7½	199176	110	90.00	199183	110	90.00	199192	110	90.00
10	199177	110	90.00	199184	110	90.00	199193	110	90.00
15	199178	160	155.00	199185	110	90.00	199194	110	90.00
20				199186	160	140.00	199195	160	140.00
25				199187	160	140.00	199196	160	140.00

## For Slip-ring Induction Motors—Time Limit Acceleration

5	199197	250	210.00	199203	250	220.00	199212	250	220.00
7½	199198	250	215.00	199204	250	225.00	199213	250	225.00
10	199199	250	220.00	199205	250	225.00	199214	250	225.00
15	199200	500	420.00	199206	250	230.00	199215	250	230.00
20	199201	500	425.00	199207	500	420.00	199216	500	420.00
25	199202	500	430.00	199208	500	425.00	199217	500	425.00
30				199209	500	430.00	199218	500	430.00
35				199210	500	440.00	199219	500	440.00
40				199211	500	445.00	199220	500	445.00

For complete information, write for Bulletins Nos. 9716 and 9776.

Enclosed Fl  
for Single-phase  
Single-phase  
Trade  
No.  
118988  
Three-phase or T  
118987  
Two-phase, Fou  
118986  
For D.C. Motors  
118983  
118984  
118988  
Switches fo  
used with the fo  
Above price  
When order  
wanted and the  
For complet



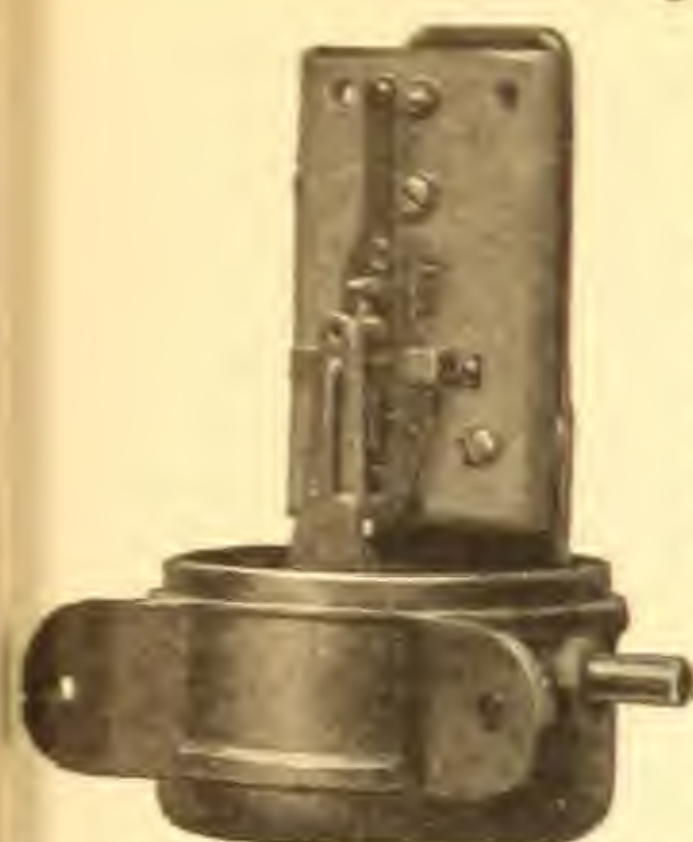
## C-H FLOAT SWITCHES

### SENSITIVE ENCLOSED TYPE FLOAT SWITCHES

Designed especially for use where the force available for operating the switch is small. It is intended primarily to be used as a pilot switch in connection with a motor self-starter. It may, however, be used as a single-pole switch for throwing across the line a small direct or single-phase alternating current motor of a capacity not greater than  $\frac{1}{4}$  H. P., 110 volts, or  $\frac{1}{2}$  H. P., 220 to 550 volts. When the cover is in place the switch is splash-proof but the cover is not tight enough to allow the switch to be submerged.

Approximate force at end of operating lever required to open or close switch,  $1\frac{1}{2}$  pounds.

Approximate travel of end of operating lever between opening and closing positions is  $\frac{1}{2}$  inch, corresponding to 10 degree angular throw of the operating shaft.



Sensitive Enclosed Float Switch  
Without Cover

### SINGLE-POLE—FOR PILOT CIRCUITS OR SMALL MOTOR SERVICE

Trade No.	Wt., Lbs. Boxed	Price Each
118986	20	\$13.00

#### Accessories

Accessories consist of a copper float (11 inches long and  $8\frac{1}{2}$  inches in diameter), iron counterweight, two iron pulleys, and 15 feet of copper chain, with four stop buttons. They are the same as those listed in Bulletin 10020.

Trade No.	Wt., Lbs. Boxed	Price Each
118987	20	\$8.00

### ENCLOSED TYPE FLOAT SWITCHES

Designed for use in connection with a suitable self-starter for automatically controlling direct or alternating current motors operating tank or sump pumps. Switches can be furnished for various mountings as listed below.

- No. 1. For mounting on the inside wall of tank.
- No. 2. For clamping over the edge of tank.
- No. 3. With floor pedestal.
- No. 4. With floor pedestal, arranged for chain operation.
- No. 5. For mounting on the outside of tank, with operating shaft extended to project through the tank wall.
- No. 6. For mounting on wall and arranged for chain operation.

Enclosed Float Switch

### TWO, THREE OR FOUR-POLE—FOR SMALL MOTOR SERVICE

For Single-phase Self-starting Motors, and Polyphase Squirrel Cage Motors which may be Thrown Directly Across the Line to Start

Single-phase, Two-pole; Rated Capacity, 3 H. P., 110 Volts; 5 H. P., 220, 440 and 550 Volts

Trade No.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
05866	\$24.00	\$27.00	\$28.00	\$36.00	\$26.00	\$31.00
Three-phase or Two-phase, Three-wire; Three-pole; Rated Capacity, 5 H. P., 110 Volts, $7\frac{1}{2}$ H. P., 220, 440 and 550 Volts						
05867	37.00	39.00	40.00	48.00	38.00	43.00
Two-phase, Four-wire; Four-pole; Rated Capacity, 5 H. P., 110 Volts; $7\frac{1}{2}$ H. P., 220, 440 and 550 Volts						
05868	40.00	42.00	43.00	51.00	41.00	46.00
For D. C. Motors when used with Suitable Self-starter Rated Capacity, up to 5 H. P., 110 and 230 Volts*						
18983	24.00	27.00	28.00	36.00	26.00	31.00
Rated Capacity, up to $7\frac{1}{2}$ H. P., 500 Volts*						
18984	40.00	42.00	43.00	51.00	41.00	46.00
Single-pole for use with Suitable Self-starter						
18988	21.00	23.00	24.00	32.00	22.00	

\*Switches for 115 and 230-volt service are 2-pole. For 500-volt circuits the 4-pole structure is used with the four blades connected two in series, giving a double break in each line.

Above prices cover switch and accessories.

When ordering, state whether sump switch or tank switch is desired, and the style mounting wanted and the type of switches required, i. e. two, three or four pole.

For complete information, write for Bulletins Nos. 10030, 10031 and 10035.